

PROJECT MANUAL

HCPS ENTRANCE SECURITY RENOVATIONS

HENDERSON COUNTY PUBLIC SCHOOLS
HENDERSONVILLE, NORTH CAROLINA

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Project No: 18006
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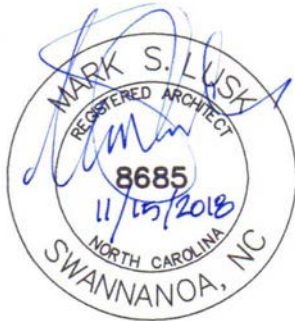
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INVITATION FOR BIDS

The Henderson County Schools, North Carolina invites interested licensed Contractors to submit construction bids for the **HCPS Entrance Security Renovations**, located in Hendersonville, North Carolina.

Bids will be received by the Owner, Henderson County Public Schools, in the Henderson County Central Office located in 414 Fourth Avenue, Hendersonville, NC, until 2:00 PM on November 28, 2018 at which time said bids will be publicly opened and read aloud.

The envelopes containing the bids must be sealed and addressed to Henderson County Public Schools, and designated as a Construction Bid for **HCPS Entrance Security Renovations**.

Copies of the Bidding Documents will be issued and available on the Henderson County Web Page under RFP's on November 16, 2018. No partial sets will be issued. Copyright of documents is emphasized. Documents may not be obtained or reproduced for any other purpose without written permission from Mark Lusk Architecture PLLC.

Performance and Payment Bond of 100% of Contract Sum is required if contract is \$300,000 or greater.

Each Bid must be accompanied by a certified check of the Bidder, or by a Bid Bond made payable to the Owner for an amount equal to no less than 5 percent of the total bid as a guarantee that, if the bid is accepted, the required Agreement will be executed and that a 100% Performance Bond will be furnished.

No Bid may be withdrawn after the scheduled closing time for receipt of bid for a period of 60 days.

The Owner reserves the right to waive irregularities in the Bidding process and to reject any or all Bids, subject to the laws and regulations of the State of North Carolina.

Mr. Martin Ballard
Hendersonville County Public Schools

END OF DOCUMENT

SUPPLEMENTAL INSTRUCTIONS TO BIDDERS

These Supplemental Instructions to Bidders amend or supplement Instructions to Bidders (AIA Document A701-1997) and other provisions of Bidding and Contract Documents as indicated below.

Compliance with these Supplemental Instructions is required by the Henderson County Public Schools, Hendersonville, North Carolina.

All provisions of A701-1997, which are not so amended or supplemented, remain in full force and effect.

Bidders are cautioned to carefully examine the Bidding and Contract Documents for additional instructions or requirements.

RELATED DOCUMENTS

AIA Document A701-1997, hereby incorporated by reference.

Invitation for Construction Bids.

Bid Form.

Supplementary Conditions.

Other documents that may be identified in the Bidding and Contract.

MODIFICATIONS TO A701-1997

Delete Paragraph 1.1 and insert the following:

§ 1.1 BIDDING DOCUMENTS include the Bid Requirements and the proposed Contract Documents.

§ 1.1.1 Bid Requirements consist of the Invitation for Construction Bid, AIA Document A701-1997, Instructions to Bidders, this Section, Supplemental Instructions to Bidders, Bid Form and any Supplemental Instructions to Bidders included in the Bidding Documents, and all Addenda issued prior to the receipt of Bids.

§ 1.1.2 Contract Documents consist of the AIA Document A101-~~2007~~, Standard Form of Agreement Between Owner and Contractor, AIA Document A201-~~2007~~, General Conditions of the Contract for Construction, Supplementary Conditions, the Scope of Work as indicated on the Plans and the Specifications, the Contractor's Bid and Contract Modifications issued after execution of the Contract. All forms shall be referenced hereafter by the form number only. The Contract Documents shall govern the Work under all Divisions and Sections the same as if incorporated therein.

§ 1.1.3 Contract Modifications may be one of the following:

§ 1.1.3.1 A written amendment to the Contract signed by both parties;

§ 1.1.3.2 A Change Order.

§ 1.1.3.3 A Construction Change Directive;

§ 1.1.3.4 A written order for a minor change in the Work issued by the A/E.

Delete Paragraph 1.8 and insert the following:

§ 1.8 BIDDER is a person or entity who submits a Bid to the Owner.

Add the following subparagraph:

§ 1.10 ARCHITECT/ENGINEER (A/E) - A person or firm who performs professional services associated with the practice of architecture, professional engineering, land surveying, landscape architecture and interior design pertaining to construction, as defined by the Chapters 83A and 89C of the NC General Statutes, as well as incidental services that members of these professions and those in their employ may logically or justifiably perform, including studies, investigations, surveys, evaluations, consultations, planning, programming conceptual designs, plans and specifications, cost estimates, inspections, shop drawing reviews, sample recommendations, preparation of operating and maintenance manuals and other related services. In the absence of an A/E, the Owner assumes the role of the A/E.

Add the following subparagraph:

§ 1.12 Wherever the word "Architect" or "A/E" appears in the INSTRUCTIONS TO BIDDERS and herein, the intent is the design professional with whom the Owner has a contractual agreement.

§Add the following subparagraph:

§ 1.13 Wherever the word "Owner" or "Owner" appears in the INSTRUCTIONS TO BIDDERS and herein, the intent is the Owner with whom the successful Bidder will have a contractual agreement.

Add the following subparagraph:

§ 1.14 Wherever the phrase "in the form of" or similar appears in the Contract Documents, that phrase shall be taken to permit the use of alternative forms, provided all information required by the referenced form is submitted in a format acceptable, in their sole discretion, to the Owner. Where the Bidder or Contractor is directed to use a specific form, that form shall be used without exception.

Delete Subparagraph 2.1.3 and insert the following:

§ 2.1.3 The Bidder has visited the site, become familiar with local conditions under which the Work is to be performed, has correlated the Bidder's personal observations with the requirements of the proposed Contract Documents and has accepted full responsibility for any pre-bid existing conditions that would affect the Bid that were obvious and could have been ascertained by a site visit.

Add the following subparagraph:

§ 2.1.5 The workplace will be maintained drug-free in accordance with Article 5 of Chapter 90 of the NC General Statutes, as amended.

Add the following paragraph:

§ 2.2 Mandatory Pre-Bid Conference is required:

§ 2.2.1 Prospective Bidders are required to be represented at a Mandatory Pre-Bid Conference, at the specified time, date and place;

§ 2.2.2 Only those prospective Bidders that are represented and are listed on the sign-in sheet will be allowed to submit Bids on the Work;

§ 2.2.3 When it is in the best interest of the Owner, the Owner shall have the right to schedule more than one Mandatory Pre-Bid Conference. All prospective Bidders shall be represented and listed on the sign-in sheet of at least one Mandatory Pre-Bid Conference to be eligible to bid the Work.

Add the following paragraph:

§ 2.4 The A/E will publish, prior to the Bid opening, an Addendum to the Contract Documents listing, the prospective Bidders that were represented and signed-in at the Mandatory Pre-Bid Conference(s).

Delete paragraph 3.1 and substitute the following:

§ 3.1 COPIES OF BIDDING DOCUMENTS

§ 3.1.1 Bidders and Sub-bidders may obtain complete sets of the Bidding Documents from the office designated in the Invitation for Construction Bids for the sum stated therein.

§ 3.1.2 If the deposit is listed as refundable on the Invitation for Construction Bids, then:

§ 3.1.2.1 The deposit will be refunded to all plan holders that return the Bidding Documents in good condition within ten (10) days; or

§ 3.1.2.2 The cost of replacement of missing or damaged documents will be deducted from the deposit; and,

§ 3.1.2.3 A Bidder receiving a Contract Award may retain the Bidding Documents and the Bidder's deposit will be refunded.

§ 3.1.3 Bidders and sub-bidders shall use complete sets of Bidding Documents in preparing Bids or sub-Bids; neither the Owner nor A/E assumes responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents. Partial sets of Bidding Documents will not be issued.

§ 3.1.4 The Owner and A/E have made copies of the Bidding Documents available on the above terms for the purpose of obtaining Bids on the Work. No license or grant of use is conferred by issuance of copies of the Bidding Documents.

Delete subparagraph 3.2.1 and substitute the following:

§ 3.2.1 The Bidder and each sub-Bidder shall carefully study and compare the Bidding Documents with each other, and with other work being bid concurrently or presently under construction to the extent that it relates to the Work for which the Bid or sub-Bid is submitted. The Bidder and each sub-Bidder shall examine the site and local conditions, such as, but not limited to, location, accessibility, general character of the site or building and the extent of existing work within or adjacent to the site, and shall incorporate the impact, if any, of such conditions into the Bid submitted.

Delete subparagraph 3.2.2 and substitute the following:

§ 3.2.2 Bidders and sub-Bidders requiring clarification or interpretation of the Bidding Documents shall make a written request which shall reach the A/E at least ten (10) days prior to the date for receipt of Bids. No oral interpretations in regard to the meaning of Plans and Specifications will be made and no oral instructions will be given prior to the award of the Contract.

Delete subparagraph 3.3.1 and substitute the following:

§ 3.3.1 The materials, products and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance and quality to be met by any proposed substitution. Reference in the Bidding Documents to the words "or equal" and "or approved equal" shall be interpreted as establishing a standard of quality and shall not be construed as limiting competition.

Delete subparagraph 3.3.4 and substitute the following:

§ 3.3.4 No substitutions during construction for specified items shall be allowed unless they are recommended by the A/E and approved by the Owner.

Delete subparagraph 3.4.3 and substitute the following:

§ 3.4.3 No Addenda will be issued later than the fifth (5th) calendar day prior to the date set for receipt of Bids, except to:

§ 3.4.3.1 withdraw the request for Bids; or,

§ 3.4.3.2 postpone the date for receipt of Bids.

Add the following subparagraph:

§ 3.4.5 When the date for receipt of Bids is to be postponed and there is insufficient time to issue a written Addendum prior to the original Bid Date, prospective Bidders shall be notified by telephone, fax or other appropriate means with immediate follow up with a written Addendum. This Addendum shall verify the postponement of the original Bid Date and establish a new Bid Date. The new Bid Date shall be no earlier than the fifth (5th) calendar day after the date of issuance of the Addendum postponing the original Bid Date.

Add the following subparagraph:

§ 3.4.6 Bid Forms wherein the Bidder fails to acknowledge all issued Addenda by number shall be rejected as non-responsive, except for the following:

§ 3.4.6.1 The Addendum only gives clarifications or lists attendees at a Mandatory Pre-Bid Conference; or,

§ 3.4.6.2 The Bid received clearly indicates that the Bidder received the Addendum, such as where the Addendum added another item to the Invitation for Construction Bids and the Bidder submitted a Bid thereon; or,

§ 3.4.6.3 The Addendum clearly would have had no effect or merely a trivial or negligible effect on price, quality, quantity, or delivery, and does not affect the relative standing of the Bidders. Under no circumstances can the Bid Amount be changed or modified.

(1) Trivial Or Negligible Effect shall be defined as an increase in the Base Bid amount of the apparent low bidder, not to exceed one percent (1%) of the Base Bid amount. There shall be no percentage limitation if the Addendum decreases the cost of the Work. The cost of the Addendum shall be determined by the A/E or by the Owner's procurement officer.

(2) Relative Standing Of The Bidders shall mean that the order of the Bidders would be the same regardless of the Addendum. If the estimated cost of the Addendum (regardless of the percent of increase) exceeds the difference between the Bids of the apparent low bidder and the second-low bidder, then the Bid of the apparent low bidder shall be rejected as non-responsive.

Delete subparagraph 4.1.1 and substitute the following:

§ 4.1.1 Bids shall be submitted on the Bid Form included in the Bidding Documents, or on true copies thereof, and signed in ink or other indelible media. The Bidder shall make no stipulations or qualify its Bid in any manner not permitted on the Bid Form.

Delete subparagraph 4.1.4.

Delete subparagraph 4.1.5 and substitute the following:

§ 4.1.5 All requested Alternates must be bid.

§ 4.1.5.1 Indicate either a dollar amount or the words "zero" or "No Change"

§ 4.1.5.2 Indicate "ADD TO" or "DEDUCT FROM" for each Alternate,

Delete subparagraph 4.1.6.

Delete subparagraph 4.1.7.

Add the following subparagraph:

§ 4.1.8 Unsigned Bids shall be rejected; provided however, that an unsigned Bid shall not be rejected when it is accompanied by a properly prepared Bid Security or by other material indicating the Bidder's intention to be bound by the unsigned document, such as the submission of a Bid Guarantee with the Bid or a letter with the Bid signed by the Bidder, referring to and identifying the Bid itself.

Add the following subparagraph:

§ 4.1.9 Subcontractor(s) listed on the Bid Form to perform Alternate Work may be used for both the Alternate and Base Bid Work, if the Alternate is accepted.

Delete paragraph 4.2 and substitute the following:

§ 4.2 BID SECURITY

§ 4.2.1 If required as stated in the Invitation for Bid form, each Bid shall be accompanied by Bid Security in the dollar amount, if any, listed on the Bid Form, or in an amount of not less than five percent (5%) of the Base Bid. The Bid Security shall be:

§ 4.2.1.1 Written on a Surety's Bid Bond form that has been executed by a Surety, made payable to the Owner; meeting the standards required by the Bidding Documents and the Bidder and Surety are firmly bound unto the Henderson County School District under the conditions of the Bid Bond provided in the Bidding Documents; or,

§ 4.2.1.2 An electronic Bid Bond authorization number issued by a firm or organization authorized by the surety to receive, authenticate and issue binding electronic Bid Bonds on behalf the surety; or,

§ 4.2.1.3 In the form of a certified cashier's check.

§ 4.2.2 By providing an electronic bid bond authorization code and signing the Bid Form, the Bidder is certifying that an electronic bid bond has been executed by a Surety meeting the standards required by the Bidding Documents and the Bidder and Surety are firmly bound unto the Henderson County School District under the conditions of the Bid Bond provided in the Bidding Documents.

§ 4.2.3 To be acceptable, a Bid Bond shall:

§ 4.2.3.1 Be issued by a surety company licensed to do business in North Carolina;

§ 4.2.3.2 Be issued by a surety company having, at a minimum, a "Best Rating" of "A" as stated in the most current publication of "Best's Key Rating Guide, Property-Casualty". In addition, the surety shall have a minimum "Best Financial Strength Category" of "Class V, and in no case less than five (5) times the contract amount.

§ 4.2.3.3 Be accompanied by a certified and current power of attorney by the attorney-in-fact who executes the bond on the behalf of the surety company; and,

§ 4.2.3.4 Be enclosed in the bid envelope at the time of Bid Opening, either in paper copy or as a Bid Bond authorization number provided on the Bid Form.

§ 4.2.4 By providing Bid Security, the Bidder pledges to enter into a Contract with the Owner on the terms stated in the Bidding Documents and will, if required, furnish bonds covering the faithful

performance of the Contract and payment of all obligations arising thereunder. The Bidder shall forfeit to the Owner as liquidated damages the amount of the Bid Security if the Bidder fails to:

§ 4.2.4.1 Correct any Bid deficiency as required by the Bidding Documents and the Manual; or,

§ 4.2.4.2 Enter into such Contract; and,

§ 4.2.4.3 Furnish such bonds, if required.

§ 4.2.5 The Owner shall have the right to retain the Bid Security of any or all Bidders until such time as one of the three conditions listed below has been met.

§ 4.2.5.1 The Contract for Construction has been executed and both Labor and Material Payment and Performance Bonds, if required, have been furnished; or,

§ 4.2.5.2 The specified time has elapsed so that Bids may be withdrawn; or,

§ 4.2.5.3 The Owner has rejected all Bids.

§ 4.2.6 Bidders submitting a Bid Security not meeting the required amount, surety rating or financial strength rating shall have one working day from the Bid Opening to cure the deficiency or the Bid shall be considered non-responsive. The Bid Security amount submitted with the Bid must be at least 80% of the required amount to be eligible for correction.

Delete Subparagraph 4.3.1 and substitute the following:

§ 4.3.1 All copies of the Bid, the Bid Security, if any, and all other documents required to be submitted with the Bid should be enclosed in a sealed opaque envelope. The Bid Envelope should be addressed to the party receiving the Bids and shall be identified with the Project Name, the Bidder's name and address and, if applicable, the designated portion of the Work for which the Bid is submitted.

Delete subparagraph 4.3.3 and substitute the following:

§ 4.3.3 The Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids.

§ 4.3.3.1 Bidders attending the Bid Opening should bring Bids to the place of the Bid Opening as shown in the Invitation for Construction Bids. The Bids should be given to the procurement officer of the Owner or his designee (includes the A/E) prior to the time of the Bid Opening.

§ 4.3.3.2 Bids sent by mail or special delivery service (UPS, Federal Express, etc.) should be labeled "SEALED BID ENCLOSED", and shall be addressed to the Owner designated purchasing office as shown in the Invitation for Construction Bids. Delivery of Bids to the above location shall be prior to the time of Bid Opening. Bids not received at the above location or Owner's mail room, prior to the time of Bid Opening, will be rejected.

Add the following subparagraph:

§ 4.3.5 Any other or special documents requested of the Bidder in these Bidding Documents shall be included in the Bid Envelope. If they are not included with the Bid Envelope, the Bidder shall have twenty four (24) hours from the time of the Bid Opening to provide these documents or its Bid shall be considered non-responsive.

Add the following subparagraph:

§ 4.3.6 The official time for receipt of Bids shall be determined by reference to the clock designated by the Owner procurement officer or his designee. The procurement officer conducting the Bid Opening shall determine and announce that the deadline has arrived and no further Bids or bid modifications will be accepted. All Bids and bid modifications in the possession of the

procurement officer at the time the announcement is completed shall be considered timely, whether or not the bid envelope has been date/time stamped or otherwise marked by the procurement officer.

Delete subparagraph 4.4.2 and insert the following:

§ 4.4.2 Prior to the time and date designated for receipt of Bids, a Bid submitted may be modified or withdrawn by notice to the party receiving Bids at the place designated for receipt of Bids. Such modification shall be in writing on the Bid Form contained in the Bidding Documents or a true copy thereof, and over the signature of the Bidder.

Delete Article 5 in its entirety and substitute the following:

ARTICLE 5 CONSIDERATION OF BIDS

§ 5.1 COMPLIANCE WITH REQUIREMENTS. To be considered, Bids shall be made in accordance with these Instructions to Bidders. Failure to comply with these bidding requirements may cause a bid to be rejected.

§ 5.2 OPENING OF BIDS

§ 5.2.1 Bids received on time will be opened publicly and read aloud. Bids that are determined, at the time of opening, to be non-responsive shall not be read. If all Bids are to be rejected, the Owner shall announce the reason(s) therefore.

§ 5.2.2 The date and location of the posting of the Notice of Intent to Award will be announced.

§ 5.2.3 The Owner shall send a copy of the final Bid Tabulation to all Bidders within ten (10) working days of the Bid Opening.

§ 5.2.4 If the Project is to be awarded, the Owner shall send a copy of the Notice of Intent to Award to all Bidders after posting.

§ 5.2.5 If only one Bid is received, the Bid shall be opened and considered.

§ 5.3 REJECTION OF BIDS

§ 5.3.1 The Owner shall have the right to reject any or all Bids, reject a Bid not accompanied by a required Bid Security or by other data required by the Bidding Documents, or reject a Bid which is in any way incomplete or irregular.

§ 5.3.2 Bids shall be rejected for any of the following reasons, which include, but are not limited to:

§ 5.3.2.1 Failure by a Bidder to be represented at a Mandatory Pre-Bid Conference or site visit; or,

§ 5.3.2.2 Failure to deliver the Bid on time; or,

§ 5.3.2.3 Failure to comply with Bid Security requirements, except as allowed herein; or,

§ 5.3.2.4 Listing an invalid electronic Bid Bond authorization number on the bid form; or,

§ 5.3.2.5 Failure to Bid an Alternate; or,

§ 5.3.2.6 Failure to list qualified Subcontractors as required by law, or,

§ 5.3.2.7 Showing any modification(s) or exception(s) qualifying the Bid; or,

- § 5.3.2.8 Faxing a Bid directly to the Owner or their representative; or,
- § 5.3.2.9 Failure to include in the Bid Envelope all items required by the Bidding Documents; or,
- § 5.3.2.10 Failure to include a properly executed Power-of-Attorney with the bid bond.
- § 5.3.3 Bids shall not be rejected for the following reasons, which include, but are not limited to:
- § 5.3.3.1 Failure to write "Sealed Bid Enclosed" on the outside of the mailing envelope; or,
- § 5.3.3.2 Failure to seal the Bid envelope; or,
- § 5.3.3.3 Listing a modification to the Bid on the outside of the Bid envelope, provided however that such modifications will not be considered; or,
- § 5.3.3.4 Failure to list any information on the envelope other than that which may be required by law; or,
- § 5.3.3.5 Providing a fax copy or other reproduction of any or all Bidding Documents in the Bid envelope: or,
- § 5.3.3.6 Failure to indicate "ADD TO" or "DEDUCT FROM" on an Alternate, but only when the adjustment is obvious; or,
- § 5.3.3.7 Failure to provide an Incremental Price or a Unit Price when requested on the Bid Form; or,
- § 5.3.3.8 Providing additional listings of "Subcontractor Specialty" beyond those listed on the Bid Form; or,
- § 5.3.3.9 Failure of the Bidder to sign the Bid, provided it is accompanied by a properly prepared Bid Security, or other information, as required by this Section; or,
- § 5.3.3.10 Providing a reproduction of a signature on any or all Bidding Documents; or,
- § 5.3.3.11 Failure of the corporation to include its seal on the Bid; or,
- § 5.3.3.12 Bid Bond not signed by the bidder but only if the bond has been properly executed and signed by the bonding company or agent.
- § 5.3.3.13 Immaterial variation from the exact requirements of the Bidding Documents.
- § 5.3.4 Bidders shall have one (1) working day from the time of Bid opening to correct the following deficiencies:
- § 5.3.4.1 Failure to provide five percent (5%) Bid Security when required, provided that the Bidder did furnish Bid Security in the proper form equal to at least eighty (80) percent of that required in the Invitation for Construction Bids; and,
- § 5.3.4.2 Failure to provide a Bid Bond with the proper surety rating and financial strength, provided that the Bidder did furnish Bid Security in the proper form equal to at least eighty (80) percent of that required in the Invitation for Construction Bids.
- § 5.4 ACCEPTANCE OF BID (AWARD)
- § 5.4.1 INTENT TO AWARD. It is the intent of the Owner to award a Contract to the lowest evaluated responsive bid submitted by a responsible Bidder. The lowest evaluated responsive bid will be determined by the sum of the base bid plus all alternates. However, the Owner reserves

the right to accept that bid received which in the Owner's judgment is in the Owner's own best interest (Refer to 5.4.3 below). The Owner reserves the right to conduct discussions with apparent responsive bidders for the purpose of clarification to assure full understanding of the requirements of the Invitation for Bid.

§ 5.4.2 NOT USED.

§ 5.4.3 REJECTION OF BIDS. The Owner shall have the right to reject all Bids; to reject Unit Prices proposed in a Bid without invalidating other portions of the Bid; to waive informalities or irregularities in a Bid received and to accept that Bid which, in the Owner's judgment, is in the Owner's own best interests. Failure by the Bidder to correct any deficiency as requested may cause the Bid to be rejected as non-responsive.

§ 5.4.4 NOT USED

Delete Article 6 in its entirety and substitute the following:

ARTICLE 6 CONTRACTOR'S QUALIFICATIONS

§ 6.1 STANDARDS OF RESPONSIBILITY. A prospective Contractor shall be considered as meeting the State's standards of responsibility when the firm has:

§ 6.1.1 Appropriate financial, material, equipment, facility and personnel resources and expertise, or the ability to obtain them, necessary to indicate its capability to meet all contractual requirements; and,

§ 6.1.2 A satisfactory record of performance; and,

§ 6.1.3 A satisfactory record of integrity; and,

§ 6.1.4 Is qualified legally licensed to contract in the State of North Carolina, and

§ 6.1.5 Has supplied all necessary information in connection with the inquiry concerning responsibility.

§ 6.2 ADDITIONAL INFORMATION. Each Bidder submitting a Bid shall, upon request, submit an AIA Questionnaire for Contractors, and all additional information as required by the Owner to support the Owner's evaluation of the responsibility of the Bidder.

§ 6.2.1 Each Bidder, by submitting a Bid, agrees to waive any claim it has or may have against the Owner, the A/E and their respective employees arising out of or in connection with the administration, evaluation or recommendation of any bid.

Delete Article 7 in its entirety and substitute the following:

ARTICLE 7 PERFORMANCE AND PAYMENT BONDS

§ 7.1 BOND REQUIREMENTS

§ 7.1.1 When required by the Invitation for Construction Bids, the Contractor shall provide and pay the cost of Performance and Labor and Material Payment Bonds as described and defined in Paragraph 11.5 of Supplementary Conditions.

§ 7.2 TIME OF DELIVERY

§ 7.2.1 When bonds are required by the Invitation for Construction Bids, the Contractor shall have a maximum of twenty-one (21) days from the date of posting of the Notice of Intent to Award, to deliver the Performance and Labor and Material Payment Bonds, Certificate of Insurance and the Contract (signed by Contractor only). Failure to deliver these documents as required shall entitle the Owner to consider the Bidder non-responsible and to declare the Bid Security forfeited.

Insert Article 9 as follows:

ARTICLE 9 PROJECT INFORMATION

§ 9.1 PROJECT NAME: HCPS Entrance Security Renovations
PROJECT NUMBER: 18006
PROJECT LOCATION: Hendersonville, North Carolina

§ 9.2 Bids sent by mail or special delivery service (UPS, FedEx, etc) should be labeled "SEALED BID ENCLOSED", and shall be addressed to the Owner's designated purchasing office as follows:

Name of Owner: Henderson County Public Schools
Designated Purchasing Office: Henderson County Public Schools
Office Address: 414 Fourth Avenue West
Hendersonville, NC 28739
Owner Representative: Mr. Martin Ballard
Contact Information: 828.697.4992
Fax: 828.698.6186

§ 9.3 Notice of Intent to Award, will be posted at the following location: TBD

BID FORM

BID OF: _____
(Contractor)

BID TO: _____ HENDERSON COUNTY PUBLIC SCHOOLS
(Owner)

PROJECT NAME: _____

PROJECT NUMBER: _____ 18002 _____ BID DATE: _____

BASE BID AGREEMENT

The undersigned, having examined all the Bidding Documents and acknowledging all Addendum(a) as follows:

Addendum(a)#

shall execute the entire Work in the Bidding Documents as described, for a LUMP SUM amount of:

_____ Dollars

(\$ _____) which sum is hereafter called the BASE BID.

DATE FOR COMMENCEMENT AND SUBSTANTIAL COMPLETION

The Date for Commencement shall be established in the Notice to Proceed. The Contractor shall not incur any expense until the contract has been awarded. An award requires that either the Contract be signed by both the awarding authority and the contractor or a Notice to Proceed is executed.

All work shall be substantially completed (as evidenced by the date on the CERTIFICATE OF SUBSTANTIAL COMPLETION) TBD, subject to adjustments as provided in the Contract Documents.

The undersigned further agrees that from the compensation to be paid, the owner may retain as Step One liquidated damages the sum of One Hundred Fifty Dollars (\$150) for each calendar day the actual contract time for Substantial Completion exceeds the specified or adjusted contract time for Substantial Completion as provided in the Contract Documents.

BID SECURITY

The undersigned enclosed bid security in the amount of not less than five (5) percent of the BASE BID. The Contractor shall have twenty-one (21) days maximum from the date of the Notice of Intent to Award to deliver Performance and Payment Bond, Certificate of Insurance, and the Contract (signed by Contractor only). Failure to deliver these documents, as required, shall entitle the agency to consider the Contractor non-responsible and declare the bid security forfeited.

ADDENDA

The undersigned acknowledges the receipt of the addenda (as noted on page one of this Bid Form) and confirms that the BID as submitted reflects appropriate price responses.

LISTING OF SEPARATE PORTIONS OF THE WORK

Provide the following breakdown of total cost to complete the portion of work as described in the Contract Documents. The Owner may select the base bid or one or more portions of work listed below. The award of contract will be the lowest responsible responsive bid consisting of either the base bid or selected portions of the work as follows:

West Henderson High School:

_____ Dollars(\$)

Dana Elementary School:

_____ Dollars(\$)

Marlow Elementary School:

_____ Dollars(\$)

Etowah Elementary School:

_____ Dollars(\$)

BID HOLDING TIME AND ACCEPTANCE

The undersigned agrees that this Base Bid may not be revoked or withdrawn after the time set for the opening of bids, but shall remain open for acceptance for a period of sixty (60) days following the bid date.

CERTIFICATION REGARDING DRUG-FREE WORKPLACE

The undersigned certifies that the contractor listed below will provide a "drug-free workplace" as that term is defined in Article 5 of Chapter 90 of the NC General Statutes.

PROGRESS PAYMENTS

Contractor's Application for Payment shall be submitted to the Architect on AIA Document G702 and G703 - 1983 Edition. The period covered by each application for Payment shall be not less than one calendar month. The Owner shall make progress payments to the Contractor on undisputed amounts certified by the Architect within thirty (30) days from receipt of the Application for Payment by the Owner.

CONTRACTOR'S CLASSIFICATIONS AND SUBCLASSIFICATIONS WITH LIMITATIONS

(Classification) (Subclassification) (Limitations)

(NC Contractor's License Number)

AUTHORIZATION

(Type or Print Name of Contractor)

(Type or Print Address)

(Type or Print Phone Number)

(Type or Print Fax Number)

(Type or Print Name)

(Title)

(Signature)

(Date)

END OF BID DOCUMENT

STANDARD MODIFICATIONS TO AIA A101-2017

These Standard Modifications amend or supplement the Standard Form of Agreement Between Owner and Contractor (AIA Document A101-2017) and other provisions of Bidding and Contract Documents as indicated below.

Compliance with these Standard Modifications is required by Henderson County, North Carolina.

All provisions of A101-2017, which are not so amended or supplemented, remain in full force and effect.

RELATED DOCUMENTS

AIA Document A101-2017 hereby incorporated by reference and referred to hereafter as A101.

AIA Document A201-2017 hereby incorporated by reference and referred to hereafter as A201.

Document Supplementary Conditions.

Other documents that may be identified in the Bidding and Contract Documents.

MODIFICATIONS TO A101

ARTICLE 2 THE WORK OF THIS CONTRACT

Delete Section 2 and insert the following:

The Contractor shall fully execute the Work as described in the Contract Documents, or reasonable inferable by the Contractor as necessary to produce the results indicated by the Contract Documents, except to the extent specifically indicated in the Contract Documents to be the responsibility of others.

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

Add the following new Paragraphs 3.4 and 3.5 to the end of Section 3:

§3.4 The Contractor acknowledges and recognizes that the Owner is entitled to full and beneficial occupancy and use of the complete Work following expiration of the Contract Time and that the Owner has entered into, or will enter into, binding agreements demising all or part of the premises where Work is to be completed based upon the Contractor's achieving Final Completion of the work within the Contract Time. It is hereby mutually agreed by and between the parties that time shall be an essential part of the Agreement and the Contractor further acknowledges and agrees that if the Contractor fails to complete substantially or cause the Final Completion of any portion of the Work within the Contract Time, the Owner will sustain damages and loss as a result of such failure. The exact amount of such damages will be difficult to ascertain. Therefore, the Owner and the Contractor agree as set forth below in this Paragraph 3.4.

§3.4.1 If the Contractor fails to achieve Substantial Completion of the Work within the Time for Completion allowed in the Agreement, the Owner shall be entitled to retain or recover from the Contractor and its Surety, as liquidated damages and not as a penalty, the following per diem amounts commencing upon the first day following expiration of the specified or adjusted time of performance and continuing until the actual Date of Substantial Completion. Such liquidated damages are hereby agreed to be a reasonable estimate of damages the Owner will incur as a result of delayed completion of the Work: \$150 per day.

§3.4.3 The Owner may deduct liquidated damages described in Subparagraphs 3.4.1 and 3.4.2 from any unpaid amounts then or thereafter due the Contractor under this Agreement. Any liquidated damages not so deducted from any unpaid amounts due the Contractor shall be payable to the Owner by the Contractor or its Surety at the demand of the Owner

ARTICLE 4 CONTRACT SUM

Add the following to Paragraph 4.3:

§4.4.1 Unit prices are set forth in the "Schedule of Unit Prices" attached hereto and made a part hereof as Exhibit (A). Such unit prices are considered complete and include: (1) all materials, equipment, labor, delivery, installation, overhead, and profit; and, (2) any other costs or expenses in connection with, or incidental to, the performance of that portion of the Work to which such unit prices apply.

ARTICLE 5 PAYMENTS

§ 5.1 PROGRESS PAYMENTS

Delete Subparagraph 5.1.1 and substitute the following:

§5.1.1 Based on Applications for Payment, including all supporting documentation, submitted to the Owner and the A/E by the Contractor and Certifications for Payment issued by the A/E., the Owner shall make progress payment on Account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

Delete Subparagraph 5.1.3 and insert the following:

§5.1.3 An Application for Payment, including all supporting documentation, for the period of time established in Subparagraph 5.1.2 shall be received by the A/E and the Owner not later than ten (10) days after the end of the period for which the Contractor is making application for payment. Payment on approved amounts shall be made by the Owner not later than thirty (30) days after the A/E and the Owner receive the Application for Payment.

Add the following sentence to Subparagraph 5.1.5: Each Application for Payment shall include such other information, documentation, and materials as the Owner or the A/E may require to substantiate the Contractor's entitlement to payment.

Delete Clause 5.1.7.1 and substitute the following: Add, upon Substantial Completion of the Work, a sum sufficient to increase the total payments to ninety-five percent (95%) of the Contract Sum, less any amounts the A/E shall determine for incomplete and unacceptable Work, retainage applicable to such work, unsettled claims, Step One liquidated damages then due, and anticipated Step Two liquidated damages, if any.

Add the following Clause to Subparagraph 5.1.8:

§5.1.8.1 Refer to Subparagraphs 9.6.2 and 9.8.5 of the General Conditions. Any reduction or release of retainage, or portion thereof, however, shall not be a waiver of: (1) any of the Owner's rights to retainage in connection with other payments to the Contractor; or, (2) any other right or remedy that the Owner has under the Contract Documents, at law or in equity.

§ 5.2 FINAL PAYMENT

Delete Subparagraph 5.2.2 and insert the following:

§ 5.2.2 Final payment shall be made within thirty (30) days from the date the Owner (or A/E) receives the final undisputed Application for payment, including all supporting documentation, from the Contractor. All conditions stipulated in the General Conditions shall have been met before final payment is made.

ARTICLE 7 TERMINATION OR SUSPENSION

Insert the words "...as amended" after "...2017..." in paragraph 7.1.

Insert the words "...as amended" after "...2017..." in paragraph 7.2.

ARTICLE 8 MISCELLANEOUS PROVISIONS

Add the following to Paragraph 7.2: Refer to Subparagraph 9.6.2 of the General Conditions.

Add the following Subparagraphs:

§8.7.1 Contractor shall not incur any expense chargeable to the Owner on or about the Work of this Agreement until the Notice to Proceed is issued.

§8.7.2 The Contractor represents and warrants the following to the Owner (in addition to any other representations and warranties contained in the Contract Documents), as an inducement to the Owner to execute this Agreement, which representations and warranties shall survive the execution and delivery of this Agreement, any termination of this Agreement, and the final completion of the Work.

§8.7.2.1 That it and its Subcontractors are financially solvent, able to pay all debts as they mature, and possessed of sufficient working capital to complete the Work and perform all obligations hereunder.

§8.7.2.2 That it is able to furnish the plant, tools, materials, supplied, equipment, and labor required to complete the Work and perform its obligations hereunder.

§8.7.2.3 That it is authorized to do business in the State of North Carolina and is properly licensed by all necessary governmental and public and quasi-public authorities having jurisdiction over it and over the Work and the Project.

§8.7.2.4 That its execution of this Agreement and its performance thereof is within its duly authorized powers.

§8.7.2.5 That its duly authorized representative has visited the site of the Project, familiarized himself with the local and special conditions under which the Work is to be performed, and correlated his observations with the requirements of the Contract Documents, and;

§8.7.2.6 That it possesses a high level of experience and expertise in the business administration, construction, construction management, and superintendence of projects of the size, complexity, and nature of this particular Project, and it will perform the Work with the care, skill, and diligence of such a contractor.

The foregoing warranties are in addition to, and not in lieu of, any and all other liability imposed upon the Contractor by law with respect to the Contractor's duties, obligations, and performance hereunder. The Contractor acknowledges that the Owner is relying upon the Contractor's skill and experience in connection with the Work called for hereunder.

§8.7.3 The Owner reserves the right, pursuant to Section 7 of the General Conditions, to modify the Work of the Contractor.

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

Insert the words "...as amended by those modifications to AIA A101-2017 and as otherwise stated herein" after "...2017..." in Subparagraph 9.1.1.

Insert the words "...as amended..." after "...2017..." in Subparagraph 8.1.2.

In Subparagraph 9.1.3 insert the Project Manual issue date and list the following:

Supplemental Conditions

3.4 List the following in Subparagraph 9.1.4:

Supplemental Instructions to Bidders
Modifications to AIA A101-2017

3.5 List the following in Subparagraph 9.1.7:

Table of Contents
Invitation for Construction Bids
Instructions to Bidders (AIA Document A701-1997 Edition)
Contractor's Bid
Construction Change Order

END OF DOCUMENT

SUPPLEMENTARY CONDITIONS

The *General Conditions of the Contract for Construction*, AIA Document A201, 2007 Edition, Articles 1 through 14 inclusive, is a part of this Contract and is incorporated as fully as if herein set forth. For brevity, AIA Document A201 is also referred to in the Contract Documents collectively as the "General Conditions."

The following supplements modify, delete and/or add to the General Conditions. Where any portion of the General Conditions is modified or any paragraph, subparagraph or clause thereof is modified or deleted by these Supplementary Conditions, the unaltered provisions of the General Conditions shall remain in effect.

Unless otherwise stated, the terms used in these Standard Supplementary Conditions which are defined in the General Conditions have the meanings assigned to them in the General Conditions.

ARTICLE 1: GENERAL PROVISIONS

§ 1.1.1 THE CONTRACT DOCUMENTS:

Add the following sentence to the end of Section 1.1.1: The Contract Documents executed in accordance with Section 1.5.1 shall prevail in case of an inconsistency with subsequent versions made through manipulatable electronic operations involving computers.

§ 1.1.2: THE CONTRACT

Add the following at the end of Section 1.1.2(2) between the words "Sub-subcontractor" and "or": except as set forth in Section 5.4.

Add the following Section 1.1.9:

§ 1.1.9 THE NOTICE TO PROCEED:

A document issued by the Owner to the Contractor (with a copy to the Architect) fixing the date on which the Contract time will commence for the Contractor to begin prosecution of the Work in accordance with the requirements of the Contract Documents.

§ 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS:

Add the following to Subparagraph 1.2.1:

§ 1.2.1.1 In the event of conflicts or discrepancies among the Contract Documents, interpretations will be based on the following priorities:

1. The Agreement.
2. Addenda, with those of later date having precedence over those of earlier date.
3. The Supplementary Conditions.
4. The General Conditions of the Contract for Construction.
5. Division 1 of the Specifications.
6. Drawings and Divisions 2 through 33 of the Specifications.

In case of conflicts or discrepancies or inconsistencies among the Drawings and Divisions 2 through 33 of the Specifications or within either Document not clarified by Addendum, the Architect will determine which takes precedence in accordance with Section 4.2.11. The Contractor shall provide the better quality or greater quantity of Work; or, comply with the more stringent requirements unless a lesser requirement is determined to be acceptable by the Architect prior to bidding.

§ 1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

Add the following Section 1.5.3 to Section 1.5:

§ 1.5.3 Contractor's Use of Instruments of Service in Electronic Form.

§ 1.5.3.1 The Architect may for a fee established in the specifications, and with concurrence of the Owner, furnish to the Contractor versions of instruments of Service in electronic form. The Contract

Documents executed or identified in accordance with Section 1.5.2 shall prevail in case of an inconsistency with subsequent versions made through manipulatable electronic means involving computers.

§ 1.5.3.2 The Contractor shall not transfer or reuse Instruments of Service in electronic form or machine readable form without the prior written consent of the Architect.

Add the following Section 1.7:

§ 1.7 EXECUTION OF CONTRACT DOCUMENTS

§ 1.7.1 The Contractor represents that it has taken steps reasonably necessary to ascertain the nature and location of the work, and that it has investigated and satisfied itself as to the general and local conditions which can affect the work or its cost, including but not limited to (1) conditions bearing upon transportation, disposal, handling, and storage of materials; (2) the availability of labor, water, electric power, and roads; (3) uncertainties of weather, river stages, tides, or similar physical conditions at the site; (4) the conformation and conditions of the ground; and (5) the character of equipment and facilities needed preliminary to and during work performance. The Contractor also represents that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by the Owner, as well as from the drawings and specifications made a part of this contract. Any failure of the Contractor to take the actions described and acknowledged in this paragraph will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to the Owner.

ARTICLE 2: OWNER

§ 2.1 GENERAL

Delete the first sentence of Subparagraph 2.1.2 and substitute the following:

§ 2.1.2 The Owner, upon reasonable written request, shall furnish to the Contractor in writing such information which is in the Owner's possession and which is necessary and relevant for the Contractor to evaluate, give notice of or enforce mechanic's lien rights.

§ 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

Delete the second sentence of Subparagraph 2.2.3 and substitute the following:

§ 2.2.3 Subject to the Contractor's obligations, including those in Subparagraphs 1.8.2 and 3.2.1, the Contractor shall be entitled to rely on the accuracy of information furnished by the Owner pursuant to this Subparagraph, but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.2.4 Delete the word "...under..." in the last sentence of Subparagraph 2.2.4 and substitute "...which is within...". Add the following sentence at the end of Subparagraph 2.2.4:

Neither the Owner nor the A/E shall be required to conduct investigations or to furnish the Contractor with any information concerning subsurface characteristics or other conditions of the areas where the Work is to be performed beyond that which is provided in the Contract Documents. The Contractor shall not be entitled to rely on the accuracy of any information or services provided pursuant to this Subparagraph.

Add Section 2.2.6 to Section 2.2:

§ 2.2.6 The Owner will procure and bear costs of structural tests and special inspections as required by the applicable building code, and as specified in the Project Manual.

§ 2.4 OWNER'S RIGHT TO CARRY OUT THE WORK

Delete Subparagraph 2.4.1 and substitute the following:

§ 2.4.1 If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents, and fails, within a seven-day period after receipt of written notice from the Owner, to provide the resources needed to achieve correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, proceed to correct such deficiencies. In such case an appropriate Change Directive shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the A/E's additional services made necessary by such default, neglect or failure. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor or its Surety shall pay the difference to the Owner.

Add the following Subparagraph 2.4.2:

§ 2.4.2 If, after achieving Substantial Completion, the Contractor then defaults, or neglects to complete or fails to provide resources adequate to complete the Project within the adjusted Contract Time for Final Completion as defined in Subparagraph 8.2.5, the Owner may carry out the work after giving the Contractor a single seven-day written notice of the Contractor's default or neglect. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the A/E's additional services made necessary by such default, neglect or failure. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor or its Surety shall pay the difference to the Owner.

ARTICLE 3: CONTRACTOR

§ 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

Add the following Section 3.2.5 to Section 3.2:

§ 3.2.5 The Owner shall be entitled to deduct from the Contract Sum amounts paid to the Architect for the Architect to evaluate and respond to the Contractor's requests for information, where such information was available to the Contractor from a careful study and comparison of the Contract Documents, field conditions, other Owner-provided information, Contractor-prepared coordination drawings, or prior Project correspondence or documentation.

§ 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

Change the last sentence of Subparagraph 3.3.1 to read as follows:

§ 3.3.1 If the Contractor is then instructed by the Owner in writing to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any resulting loss or damage.

§ 3.4 LABOR AND MATERIALS

Add the following clauses to Subparagraph 3.4.1:

§ 3.4.1.1 The Contractor shall not allow the use of asbestos containing products, whether temporary or permanent and whether or not incorporated or to be incorporated in the work, even if the products are nonfriable and/or contain minimal amounts of asbestos, and even though such products may still be legally installed.

§ 3.4.1.2 The Contractor shall not allow the use of lead materials in public water applications. Lead free solder, flux and pipe must be used in all public drinking water and waste water applications. Lead free solder and flux are defined as containing less than 0.2% lead, while valves, pipes and appurtenances must contain less than 8.0% lead.

Delete Section 3.4.2 and substitute the following:

§ 3.4.2 After the Contract has been executed, the Owner and Architect will consider a formal request for the substitution of products in place of those specified only under the conditions set forth in

the General Requirements (Division 1 of the Specifications). By making requests for substitutions, the Contractor:

1. represents that the Contractor has personally investigated the proposed substitute product and determined that it is equal or superior in all respects to that specified.
2. represents that the Contractor will provide the same warranty for the substitution that the Contractor would for that specified.
3. certifies that the cost data presented is complete and includes all related costs under this Contract except the Architect's redesign costs, and waives all claims for additional costs related to the substitution which subsequently become apparent; and
4. will coordinate the installation of the accepted substitute, making such changes as may be required for the Work to be complete in all respects.

Add the following Section 3.4.4 to Section 3.4:

§ 3.4.4 The Owner shall be entitled to deduct from the Contract Sum amounts paid to the Architect to evaluate the Contractor's proposed substitutions and to make agreed-upon changes in the Drawings and Specifications made necessary by the Owner's acceptance of such substitutions.

§ 3.5 WARRANTY

Delete Subparagraph 3.5.1 and substitute the following:

§ 3.5.1 The Contractor warrants to the Owner and the A/E that all materials and equipment furnished under the Contract shall be in first class condition, and new unless otherwise required or permitted by the Contract Documents; that the Work will be free from defects not inherent in the quality required or permitted; and that the Work will conform to the requirements of the Contract Documents. If required by the Owner or the A/E, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. The Contractor further warrants that all workmanship shall be of the highest quality and in accordance with the Contract Documents, and shall be performed by persons well-qualified at their respective trades.

Unless caused by the Contractor, the Contractor's warranty excludes remedy for damage or defect caused by abuse, modifications not performed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Owner or the A/E, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment provided.

§ 3.6 TAXES

Add the following Subparagraph 3.6.2:

§ 3.6.2 The Contractor's attention is directed to NCGS 105-164.13, as amended, concerning withholding tax for nonresidents, employees, contractors and subcontractors.

§ 3.6.3 Upon completion of the project and before final payment is made, Contractor shall furnish the Owner a notarized statement of the amount of sales tax paid and certifying that said items were incorporated into this project.

§ 3.8 ALLOWANCES

Delete the last sentence of Clause 3.8.2.3 and substitute the following:

§ 3.8.2.3 The amount of the Change Order shall reflect the difference between actual costs under Clause 3.8.2.1, as documented by invoices, and the allowance amounts.

§ 3.8.3 Insert the word "...unreasonable ..." between "...avoid..." and "...delay..." in Subparagraph 3.8.3.

§ 3.9 SUPERINTENDENT

Add the following Section 3.9.4 to 3.9:

§ 3.9.4 The Contractor shall employ a superintendent or an assistant to the superintendent who will perform as a coordinator for mechanical and electrical Work. The coordinator shall be knowledgeable in mechanical and electrical systems and capable of reading, interpreting and coordinating Drawings, Specifications, and shop drawings pertaining to such systems. The coordinator shall assist the Subcontractors in arranging space conditions to eliminate interference between the mechanical and electrical systems and other Work and shall supervise the preparation of coordination drawings documenting the spatial arrangements for such systems within restricted spaces. The coordinator shall assist in planning and expediting the proper sequence of delivery of mechanical and electrical equipment to the site.

§ 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

Add the following Clauses to Subparagraph 3.10.1:

This schedule shall:

- § 3.10.1.1 indicate the dates for the start and completion of the various elements of the Work, and shall be affirmed or revised monthly as required by the conditions of the Work and upon execution of a Change Order that affects time.
- § 3.10.1.2 provide a graphic representation of activities and events that will occur during performance of the Work in sufficient detail, and as acceptable to the Owner, to show the sequencing of the various trades for each floor level, wing or work area;
- § 3.10.1.3 identify each phase of construction and occupancy; and,
- § 3.10.1.4 set forth dates that are critical in ensuring the timely and orderly completion of the Work in accordance with the requirements of the Contract Documents (hereinafter referred to as "Milestone Dates").

Delete Subparagraphs 3.10.3 and insert the following:

- § 3.10.3 The Contractor shall perform the Work in accordance with the most recent schedules submitted to and approved by the Owner.
- § 3.10.3.1 If the Contractor submits a schedule or schedule progress report indicating, or otherwise expresses an intention to achieve Substantial or Final Completion of the Work or any portion thereof, prior to any completion date required by the Contract Documents or to the expiration of the Contract Time, no liability to the Owner for any failure of the Contractor to do so complete the Work shall be created or implied. The Contractor shall not be entitled to an adjustment in the Contract Sum or the Contract Time for failure to achieve such early completion dates.

§ 3.11 DOCUMENTS AND SAMPLES AT THE SITE

Add the following sentence to Subparagraph 3.11.1:

Prompt delivery to the A/E of the materials and items specified above, in good order, shall be a condition precedent to the Contractor receiving a Certificate of Substantial Completion.

§ 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- § 3.12.2: After the word "...instruction..." insert "...installation, training and operations manuals..." in Subparagraph 3.12.2.

Add the following Clauses to Subparagraph 3.12.5:

§ 3.12.5.1 If the project requires automatic fire protection sprinklers systems, sprinkler shop drawings shall be prepared by the licensed sprinkler Contractor. The sprinkler shop drawings shall be reviewed and approved by the A/E's engineer of record before submittal to the State Fire Marshal or other authorities having jurisdiction.

§ 3.12.6.2 The Contractor shall submit a copy of the State Fire Marshal's approval letter to the A/E and the Owner.

Add Section 3.12.11 to Section 3.12:

§ 3.12.11 The Architect's review of Contractor's submittals will be limited to examination of an initial submittal and two (2) resubmittals. The Architect's review of additional submittals will be made only with the consent of the Owner after notification by the Architect. The Owner shall be entitled to deduct from the Contract Sum amounts paid to the Architect for evaluation of such additional resubmittals.

§ 3.18 INDEMNIFICATION

§ 3.18.1: In the first sentence of Subparagraph 3.18.1 after the word "...itself)..." delete the phrase "...but only to the extent caused..." and insert "...including loss of use resulting therefrom, but only to the extent caused in whole or in part by..."

ARTICLE 4: ADMINISTRATION OF THE CONTRACT

§ 4.2 ARCHITECT'S ADMINISTRATION OF THE CONTRACT

Insert the following before the last sentence of Subparagraph 4.2.1: Notwithstanding these responsibilities, no act or omission by the A/E shall be considered a waiver of any of the Owner's rights or interests.

Add the following Clause to Subparagraph 4.2.1:

§ 4.2.1.1 Any reference in the Contract Documents to the A/E's taking action or rendering a decision within a "reasonable time" is understood to mean no more than fourteen (14) days, unless otherwise specified in the Contract Documents or otherwise agreed to by the parties.

Add Section 4.2.2.1 to Section 4.2.1.

§ 4.2.2.1 The Contractor shall reimburse the Owner for compensation paid to the Architect for additional site visits made necessary by the fault, neglect or request of the Contractor.

§ 4.2.5: After the word "...of..." insert the words "...the Work completed and correlated with the..."

Add the following Subparagraph 4.2.15:

§ 4.2.15 In the Contract Documents, where the words "as directed," "as required," "as approved," "as permitted" or words of like effect are used, it is to be understood that direction, requirement, approval or permission of the A/E is intended. Similar words, such as "approved," "acceptable," "satisfactory," or words of like import mean approved by, acceptable to, or satisfactory to the A/E.

ARTICLE 5: SUBCONTRACTORS

§ 5.3 SUBCONTRACTUAL RELATIONS

Delete all words after "...prejudice such rights ..." in the second sentence of Subparagraph 5.3.1.

Add the following Subparagraph 5.3.2:

§ 5.3.2 Without limitation on the generality of the foregoing, each Subcontract agreement and each Sub-subcontract agreement shall include, and shall be deemed to include, the following:

§ 5.3.2.1 An agreement that the Owner is a third-party beneficiary of the Subcontract (or Sub-subcontract), entitled to enforce any rights thereunder for its benefit, and that the Owner shall have the same rights and remedies against the Subcontractor (or Sub-subcontractor) as the Contractor (or Subcontractor) has, including but not limited to the right to be compensated for any loss, expense, or damage of any nature whatsoever incurred by the Owner resulting from any breach of representations and warranties, expressed or implied, if any, arising out of the agreement and any error, omission, or negligence of the Subcontractor (or Sub-subcontractor) in the performance of any of its obligations under the agreement; and,

§ 5.3.2.2 A requirement that the Subcontractor (or Sub-subcontractor) promptly disclose to the Contractor (or Subcontractor) any defect, omission, error, or deficiency in the Contract Documents or in the Work of which it has, or should have had, knowledge; and,

Insert the following Subparagraph 5.3.3:

§ 5.3.3 The Contractor shall assure the Owner, by affidavit or in such other manner as the Owner may approve, that all agreements between the Contractor and its Subcontractor incorporate the provisions of Subparagraph 5.3.1 as necessary to preserve and protect the rights of the Owner and the A/E under the Contract Documents with respect to the work to be performed by Subcontractors so that the subcontracting thereof will not prejudice such rights.

Insert the following Subparagraph 5.3.4:

§ 5.3.4 Upon request, the Contractor shall provide to the Owner copies of all executed or issued subcontracts, purchase orders and other documents related to the Work.

§ 5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

Insert the following new Clause to Subparagraph 5.4.1:

§ 5.4.1.3 Subcontractors assigned to the Owner agree to perform assigned portions of the Work in accordance with the Contract Documents.

Add the following sentence to the end of Subparagraph 5.4.2: The equitable adjustment shall be limited to direct costs.

Insert the following new Subparagraph 5.4.4:

§ 5.4.4 Each subcontract shall specifically provide that the Owner shall only be responsible to the Subcontractor for those obligations of the Contractor that accrue subsequent to the Owner's exercise of any rights under this conditional assignment.

ARTICLE 7: CHANGES IN THE WORK

§ 7.2 CHANGE ORDERS

Add the following Clauses to Subparagraph 7.2.1:

§ 7.2.1.4 The Contractor shall not proceed with the Work of the Change Order until the Change Order is approved the Owner.

Add the following Subparagraph 7.2.3:

§ 7.2.3 Agreement on any Change Order shall constitute a release by the Contractor of the Owner for any and all liability under this Contract attributable to such facts or circumstances giving rise to the Change Order.

§ 7.3 CONSTRUCTION CHANGE DIRECTIVES

Delete Subparagraph 7.3.7 and substitute the following:

§ 7.3.7 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the method and the adjustment shall be determined by the A/E as provided in Clause 7.5.1.5, on the basis of reasonable expenditures and savings to those performing the Work attributable to the change, including allowances for reasonable overhead and profit.

Insert the following Subparagraph 7.3.11:

§ 7.3.11 If the Contractor defaults or neglects to execute a Change Directive, the Owner may carry out the Work in accordance with Paragraph 2.4 and Article 6.

Insert the following Paragraph 7.5:

§ 7.5 PRICE ADJUSTMENTS

§ 7.5.1 METHODS OF ADJUSTMENT. Any adjustment in the Contract Sum made pursuant to this Paragraph 7.5 shall be consistent with this Contract and shall be arrived at through whichever one of the following ways is the most valid approximation of the actual cost to the Contractor:

§ 7.5.1.1 by agreement on a fixed price adjustment;

§ 7.5.1.2 by unit prices specified in the Contract or subsequently agreed upon;

§ 7.5.1.3 by the costs attributable to the event or situation covered by the relevant clause, including profit if otherwise allowed, all as specified in the Contract; or subsequently agreed upon;

§ 7.5.1.4 in such other manner as the parties may mutually agree; or,

§ 7.5.1.5 in the absence of agreement by the parties, through a unilateral initial determination by the A/E of the costs attributable to the event or situation covered by the clause, including profit if otherwise allowed, all as computed by the A/E in accordance with Clause 7.5.3.2, and subject to review under the provisions of Paragraph 4.5 of this Contract.

§ 7.5.2 Final Agreement. When any adjustment in the Contract Sum made pursuant to clauses in this Contract becomes final (e.g., by agreement or dispute resolution), the adjustment shall be computed and documented on a "Construction Change Order."

§ 7.5.3 DOCUMENTATION OF COST REASONABLENESS

§ 7.5.3.1 CONTRACTOR'S CHANGE ORDER PROPOSAL. The Contractor shall submit a written proposal for review by the A/E and the Owner. The proposal shall be submitted to the Owner's representative within the time limits specified in Subparagraph 4.3.2. All costs claimed by the Contractor shall be justifiable compared with prevailing industry standards, as adjusted for local cost conditions. Costs shall be properly itemized and supported by substantiating data sufficient to permit evaluation before commencement of the pertinent performance or as soon thereafter as practicable.

§ 7.5.3.2 CONSTRUCTION CHANGE DIRECTIVES. For a Construction Change Directive wherein the proposed method of compensation is actual costs, and pending the collection and evaluation of actual costs as required by Clause 7.5.1.3, the Contractor shall estimate the value of the changed work. The Contractor shall itemize the estimated cost

into building components and shall use the labor, material and equipment unit direct costs as listed in the most current issue of the Construction Cost Data Book most applicable to the nature of the changed work, as published by R.S. Means, with a cost index adjusted for the project locale. The Contractor shall also be permitted to add overhead and profit as shown in Subparagraph 7.5.4. Where the Contractor does not properly itemize the proposed costs as requested, the A/E shall provide the Owner with the itemization and this amount shall be the initial basis for compensation under Subparagraph 7.3.8. Upon conversion of the Construction Change Directive to a Change Order, the A/E's cost for providing this itemization shall be deducted from the final adjustment in the Contract Sum as described in Clause 7.3.9.

§ 7.5.4 AGREED OVERHEAD AND PROFIT RATES

§ 7.5.4.1 For any adjustment to the Contract Sum for which overhead and profit may be recovered, other than those made pursuant to Subparagraph 4.3.9, the Contractor agrees to charge and accept, as full payment for overhead and profit, the following percentages of costs attributable to the change in the Work. The percentages cited below shall be considered to include all indirect costs including, but not limited to: field and office managers, supervisors and assistants, incidental job burdens, small tools, and general overhead allocations. "Commission" is defined as profit on work performed by others. The allowable percentages for overhead, profit, and commission are as follows:

- (1) To the Contractor or subcontractors on work performed by their own forces:
Overhead (10%) Profit (7%) Commission (10%)
- (2) To the Contractor on work performed by its subcontractors:
Overhead (10%) Profit (0%) Commission (3%)
- (3) To a first tier subcontractor on work performed by its subcontractors:
Overhead (10%) Profit (0%) Commission (3%)

§ 7.5.4.2 Not more than three levels of overhead, profit, and commission shall be allowed regardless of the number of subcontractor tiers.

§ 7.5.4.3 The Contractor or subcontractor shall not be allowed overhead or commission on the overhead, profit, and/or commission received by its subcontractors.

§ 7.5.4.4 Using the percentages stated in Clause 7.5.4.1, any adjustment to the Contract Sum for deleted work shall include any overhead, profit and/or commission attributable to the cost for the deleted Work.

§ 7.5.4.5 If the Contractor initiates a Change Order proposal and the Owner is not obligated to pay for all or any part of the proposal, then the Contractor shall be responsible for any A/E's fees to evaluate and process that Change Order proposal. Compensation shall be based on the Owner's contract with the A/E and the rates for Additional Services contained therein, and shall be withheld from the final payment to the Contractor.

§ 7.5.5 COST OR PRICING DATA

§ 7.5.5.1 The Contractor shall submit cost or pricing data for any element of changed work (other than Unit Price Work), and shall certify that, to the best of its knowledge and belief, the cost or pricing data submitted is accurate, complete, and current as of a mutually determined specified date prior to the date of the pricing. This data shall be itemized and supported by substantiating data sufficient to permit evaluation before commencement of the pertinent Work, or as soon thereafter as practicable, and shall be justifiably compared with prevailing industry standards. As requested by the A/E or the Owner, the Contractor's submittal shall provide an itemized breakdown of all increases and decreases in the Contract for the Contractor and each subcontractor (at any tier) in at least the following detail: material, equipment and supply quantities and costs; direct labor hours and rates for each trade; the associated FICA, FUTA, SUTA, and Worker's

Compensation Insurance; equipment hours and rates, and costs of premiums for bonds and insurance, permit fees and sales, use or similar taxes related to the Work.

§ 7.5.5.2 Any Change Order or Change Directive for which certification is required shall contain a provision that the price to the Owner, including profit or fee, shall be adjusted to exclude any significant sums by which the Owner finds that such price was increased because the cost or pricing data furnished by the Contractor was inaccurate, incomplete or not current as of the date agreed upon between parties. Notwithstanding Subparagraph 9.10.4, such adjustments may be made after final payment to the Contractor.

ARTICLE 8: TIME

§ 8.2 PROGRESS AND COMPLETION

Add the following Subparagraph 8.2.4:

§ 8.2.4 Failure by the Contractor to commence actual physical work on the project within seven (7) days from the Date of Commencement, as established in the Notice to Proceed, will entitle the Owner to consider the Contractor in substantial breach of its obligations under this Contract. In this event, the Owner may withdraw the Notice to Proceed and terminate the Contract in accordance with the Contract Documents.

§ 8.3 DELAYS AND EXTENSIONS OF TIME

Insert the following new Subparagraph 8.3.4:

§ 8.3.4 The Contractor shall be permitted an adjustment in the Contract Sum, determined in accordance with Paragraph 7.5, only if the Delays, either individually or taken in the aggregate, cause the Contract Time to be increased by more than seven (7) days.

ARTICLE 9: PAYMENTS AND COMPLETION

§ 9.2 SCHEDULE OF VALUES

Insert the following new subparagraph 9.2.2:

§ 9.2.2 The Contractor and each Subcontractor shall prepare a trade payment breakdown for the Work for which each is responsible, such breakdown being submitted on a uniform standardized format approved by the A/E and Owner. The minimum breakdown detail shall be by each specification section title. The breakdown shall be divided in detail sufficient to exhibit areas, floors, and/or sections of the Work, and/or by convenient units and shall be updated as required by either the Owner or the A/E as necessary to reflect:

§ 9.2.2.1 the description of Work (listing labor and material separately);

§ 9.2.2.2 the total value;

§ 9.2.2.3 the percent and value of the Work completed to date;

§ 9.2.2.4 the percent and value of previous amounts billed; the current percent completed and amount billed; and,

9.2.2.5 the current percent completed and amount billed.

Any schedule of values or trade breakdown that fails to include sufficient detail, is unbalanced, or exhibits "front-loading" of the value of the Work, shall be rejected. If

either the schedule of values or trade breakdown had been initially approved and subsequently used, but later was found improper for any reason, then sufficient funds shall be withheld from future Applications for Payment to ensure an adequate reserve (exclusive of normal retainage) to complete the Work.

§ 9.3 APPLICATIONS FOR PAYMENT

In the first sentence of Subparagraph 9.3.1 change "... ten days..." to "...twenty-one (21) days...".

Add the following sentence to Section 9.3.1: Model Language: The form of Application for Payment, duly notarized, shall be a current authorized edition of AIA Document G702, Application and Certificate for Payment, supported by a current authorized edition of AIA Document G703, Continuation Sheet.

Add the following Section 9.3.1.3 to Section 9.3.1:

§ 9.3.1.3 Until Substantial Completion, the Owner shall pay ninety-percent (95%) of the amount due the Contractor on account of progress payments.

Add the following to Subparagraph 9.3.4: Rental equipment such as, but not limited to, mobile equipment, pans, forms, scaffolding, compressors, etc., shall not be considered material stored.

§ 9.6 PROGRESS PAYMENTS

Add the following Clauses to Subparagraph 9.6.1:

§ 9.6.2.1 Contractor's attention is directed to NCGS 22C, as amended, concerning laborers' liens.

§ 9.6.2.2 Contractor shall properly disburse money received from all payments to all laborers, subcontractors or material-men in accordance with NCGS 22C, as amended.

Delete Subparagraph 9.6.7 in its entirety.

§ 9.7 FAILURE OF PAYMENT

Delete Subparagraph 9.7.1 and substitute the following:

§ 9.7.1 If (a) the A/E does not issue a Certificate for Payment to the Owner, through no fault of the Contractor, within seven (7) days after receipt of the Contractor's Application for Payment, or (b) the Owner does not pay the Contractor within seven (7) days after the date established in the Contract Documents, the amount of the Contractor's Application for Payment certified by the A/E, or (c) the Owner does not pay the Contractor the amount awarded by a dispute resolution order within the time limit established by such order, or within seven (7) days if no time limit is stated in such order, then the Contractor may, upon seven (7) additional days' written notice to the Owner and A/E, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and startup, which shall be accomplished as provided in Paragraph 7.5. As used in this Subparagraph, the phrase "dispute resolution order" includes any decision rendered pursuant to Paragraph 4.4.

§ 9.8 SUBSTANTIAL COMPLETION

Add the following Clause to Subparagraph 9.8.2:

§ 9.8.2.1 The Contractor's list shall be in writing and attached to the "Contractor's Request for Certificate of Full or Partial Substantial Completion". The Contractor's Request for "Certificate of Full or Partial Substantial Completion" shall be submitted at least ten (10)

days in advance of the proposed date of inspection and shall be forwarded through the A/E, who will attach its written endorsement as to whether or not it concurs with the Contractor's statement that the Work will be ready for inspection and testing on the date given. The A/E's endorsement is a convenience to the Owner only and shall not relieve the Contractor of its responsibility in the matter, nor shall the A/E's endorsement be deemed to be evidence that the Work was substantially complete and ready for inspection and testing. In the event that the A/E does not concur with the Contractor's statement, the A/E shall inform the Contractor of the basis for the A/E's non-concurrence. The Contractor may then, at its sole option, (1) defer the inspection; or, (2) request the inspection be performed in accordance with Subparagraph 9.8.3.

Add the following Clauses to Subparagraph 9.8.3:

- § 9.8.3.1 Inspection and testing shall take place at a time(s) mutually agreeable to the Contractor, Owner and the A/E.
- § 9.8.3.2 The inspection shall include a demonstration by the Contractor that all equipment, systems and operable components of the Work function properly and in accordance with the Contract Documents. The Contractor shall furnish access for the inspection and testing as provided in this Contract. The inspection and testing shall determine whether Substantial Completion has been accomplished and shall result in the A/E's issuance of a written list of Unfinished Work and Defective Work, commonly referred to as a "punch list", each item of which must be finished and corrected prior to Final Completion.
- § 9.8.3.3 The A/E and its Consultants shall conduct all Substantial Completion inspections. The Owner may elect to have other persons of its choosing also participate in the inspections. Representatives of the State Fire Marshal's Office and other authorities having jurisdiction may be present, at their sole discretion, at the Substantial Completion inspection or otherwise inspect the completed Work and advise the Owner whether the Work meets their respective requirements.
- § 9.8.3.4 If the inspection discloses any item which is not in accordance with the requirements of the Contract Documents and will prevent the Owner from occupying or utilizing the Work for its intended use, the Contractor shall complete or correct such item upon notification by the A/E. The Contractor shall then submit a request for a follow-up inspection by the A/E to determine Substantial Completion.
- § 9.8.3.5 The Contractor shall proceed promptly and diligently to complete and correct items on the list of Unfinished or Defective Work. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.
- 9.8.3.6 If more than one Substantial Completion inspection is required, the Contractor shall reimburse the Owner for all costs of reinspection or, at the Owner's option, the costs may be deducted from payments due to the Contractor.

Delete the last sentence of Subparagraph 9.8.5 and add the following Clauses:

- § 9.8.5.1 Upon such acceptance of Substantial Completion of the Work or designated portion thereof and upon application by the Contractor and certification by the A/E, the Owner shall make payment for such Work or portion thereof as provided in the Contract Documents. The balance payable shall include the retainage of five percent (5%) of the Contract Sum, less any retainage released under conditions of Subparagraph 9.6.2, plus an amount equal to the cost to complete or to correct, as determined by the A/E of the Uncompleted or Defective Work, plus the full amount of Liquidated Damages, if any. Retainage shall continue until Final Completion and Final Payment.

§ 9.10 FINAL COMPLETION AND FINAL PAYMENT

Add the following Clauses to Subparagraph 9.10.1:

- § 9.10.1.1 Final Completion shall be achieved no later than thirty (30) days after Substantial Completion unless otherwise stated in the Contract Documents or modified by a Change Order. Failure of the Contractor to achieve Final Completion within the time allowed under this Subparagraph shall entitle to Owner to consider the Contractor in substantial breach of its obligations under this Contract.
- § 9.10.1.2 The Contractor shall notify the Owner, in writing on the Contractor' section of this "Certificate of Final Completion", of the date when the Work has reached or will reach Final Completion and will be ready for final inspection and testing. The notice shall be given at least ten (10) days in advance of said date and shall be forwarded through the A/E, who will attach its endorsement as to whether or not it concurs in the Contractor's statement that the Work will be ready for inspection and testing on the date stated. The A/E's endorsement is a convenience to the Owner only and shall not relieve the Contractor of its responsibility in the matter, nor shall the A/E's endorsement be deemed to be evidence that the Work was finally complete and ready for inspection and testing. In the event that the A/E does not concur with the Contractor's statement, the A/E shall inform the Contractor of the basis for the A/E's non-concurrence. The Contractor may then, at its sole option, (1) defer the inspection; or, (2) request the inspection be performed in accordance with this Subparagraph. The final inspection and testing shall be conducted in the same manner as the inspection for Substantial Completion, including, but not limited to, the requirements of Clauses 9.8.3.3, 9.8.3.4, 9.8.3.5 and 9.8.3.6 of this Contract.
- § 9.10.1.3 Representatives of the State Fire Marshal's Office and other authorities having jurisdiction may be present at the Final Completion inspection or otherwise inspect the completed Work and advise the Owner whether the Work meets their respective requirements for the Project.
- § 9.10.1.4 The Contractor shall then submit a request for a follow-up inspection to determine Final Completion. If more than one Final Completion inspection is required, the Contractor shall reimburse the Owner for all costs of re-inspection or, at the Owner's option, the costs may be deducted from payments otherwise due to the Contractor.
- § 9.10.1.5 Approval of Work at or as a result of any inspection required herein shall not release the Contractor or its surety from responsibility for complying with the Contract.

Add the following Clause to Subparagraph 9.10.4:

- § 9.10.4.4 faulty or defective Work appearing after the date of Substantial Completion.

In Subparagraph 9.10.5, after the word "...those..." insert the phrase "...specific claims in stated amounts that have been...".

Add the following Section 9.11 to Article 9:

§9.11 The Contractor and the Contractor's surety, if any, shall be liable for and shall pay the Owner the sums hereinafter stipulated as liquidated damages for each calendar day of delay after the date established for Substantial Completion in the Contract Documents until the Work is substantially complete: **One Hundred Fifty Dollars (\$150.00).

ARTICLE 10: PROTECTION OF PERSONS AND PROPERTY

§ 10.3 HAZARDOUS MATERIALS

In Subparagraph 10.3.1 after the word "...persons ..." , insert the words "...or serious losses to real or personal property...".

Add the following Clause to Subparagraph 10.3. 1:

§ 10.3.1.1 The Owner and Contractor hereby agree that this Paragraph shall apply only to hazardous, toxic or radioactive materials or substances subject to the regulations of agencies having jurisdiction, such as, but not limited to, the NC Department of Environmental and Natural Resources (NCDENR), the U.S. Environmental Protection Owner (USEPA) and the U.S. Nuclear Regulatory Commission (USNRC).

Add the following Clauses to Subparagraph 10.3.2:

§ 10.3.2.1 Any adjustment in the Contract Sum, including reasonable overhead and profit, made pursuant to this Subparagraph shall be determined in accordance with Paragraph 7.5 of this Contract.

§ 10.3.2.2 The Work in the affected area shall be resumed immediately following the occurrence of any of the following events: (a) the Owner causes remedial work to be performed that results in the absence of materials or substances; or (b) the Owner and the Contractor, by written agreement, decide to resume performance of the Work; or (c) the Work may safely and lawfully proceed, as determined by an appropriate governmental authority or as evidenced by a written report to both the Owner and the Contractor, which is prepared by an environmental engineer reasonably satisfactory to both the Owner and the Contractor.

§ 10.3.2.3 For the purposes of this Contract, the term "rendered harmless" shall be interpreted to mean that measured levels of verified hazardous, toxic or radioactive materials or substances are less than the applicable standards established by authorities having jurisdiction. In no event, however, shall the Owner have any responsibility for any substance or material that is brought to the Project site by the Contractor, any Subcontractor, any material supplier, or any entity for whom any of them is responsible, unless such materials or substances were expressly required by the Contract Documents. The Contractor agrees not to use any fill or other materials to be incorporated into the Work that are hazardous, toxic, or radioactive, or made up of any items that are hazardous, toxic, or radioactive.

§ 10.4 EMERGENCIES

Add the following to Subparagraph 10.4.1: Written notice of the emergency, including an estimate of cost and probable effect of delay on the progress of the Work, must be given by the Contractor to the A/E as soon as possible, but in no case more than ten (10) days after the start of the emergency.

ARTICLE 11: INSURANCE AND BONDS

§ 11.1 CONTRACTOR'S LIABILITY INSURANCE

Change the second sentence of Subparagraph 11.1.2 to read:

Coverage shall be written on an occurrence basis and shall be maintained without interruption from date of commencement of the Work until date of final payment and termination of any coverage required to be maintained after final payment.

Add the following Clauses to Subparagraph 11.1.2:

- 11.1.2.1 Liability Insurance shall include all major divisions of coverage and be on a Commercial basis including the following:
- (1) Premises - Operations.
 - (2) Independent Contractor's Protective.
 - (3) Products and Completed Operations.
 - (4) Personal and Advertising Injury.
 - (5) Contractual, including specified provision for Contractor's obligations under Paragraph 3.1 8.
 - (6) Broad Form Property Damage including Completed Operations.
 - (7) Owned, Non-Owned and Hired Motor Vehicles.

11.1.2.2 The insurance required by Subparagraph 11.1.1 shall be written for not less than the following limits, or greater if required by law or other provisions of this Contract:

- (1) COMMERCIAL GENERAL LIABILITY:

(a) General Aggregate (per project)	\$ 1,000,000
(b) Products/Completed Operations	\$ 1,000,000
(c) Personal and Advertising Injury	\$ 1,000,000
(d) Each Occurrence	\$ 1,000,000
(e) Fire Damage (Any one fire)	\$ 50,000
(f) Medical Expense (Any one person)	\$ 5,000

- (2) BUSINESS AUTO LIABILITY (including All Owned, Non-Owned, and Hired Vehicles):

(a) Combined Single Limit	\$ 1,000,000 OR
(b) Bodily Injury & Property Damage (each)	\$ 750,000

- (3) WORKER'S COMPENSATION:

(a) State	Statutory
(b) Employer's Liability	\$100,000 Per Accident
	\$500,000 Disease, Policy Limit
	\$100,000 Disease, Each Employee

Add the following Clause to Subparagraph 11.1.5:

§ 11.1.5.1 Certificates of Insurance shall be in the form of the latest edition of the ACORD 25S and shall be filed with the Owner prior to commencement of the Work. In addition to Certificates of Insurance, the Contractor shall supply a written endorsement to the Contractor's general liability insurance policy that names the Owner as an additional insured. The endorsement shall provide that the Contractor's liability insurance policy shall be primary, and that any liability insurance of the Owner shall be secondary and noncontributory.

Add the following Subparagraph 11.1.6:

§ 11.1.6 For informational purposes, the Contractor is advised that Worker's Compensation Insurance is required for all Owners and executive officers of entities incorporated in the State of North Carolina.

Add the following Subparagraph 11.1.7:

§ 11.1.7 The Aggregate Limits of Insurance required by Subparagraph 11.1.2 shall apply, in total, to this Contract only. This shall be indicated on the insurance certificate or an attached policy amendment.

- § 11.1.7.1 The insurance policies and Certificates of Insurance required by this Contract shall contain a provision that no material alteration, cancellation, nonrenewal, or expiration of the coverage contained in such policy or evidenced by such Certificates of Insurance shall have effect unless the Owner has been given at least thirty (30) days' prior written notice. The Contractor shall provide a minimum of thirty (30) days written notice to the Owner of any proposed reduction of coverage limits, including every coverage limit identified in Subparagraph 11.1.2, or any substitution of insurance carriers.
- § 11.1.7.2 In no event shall any failure of the Owner to receive certified copies or certificates of policies required under this Article or to demand receipt of such certified copies or certificates prior to the Contractor's commencing the Work be construed as a waiver by the Owner of the Contractor's obligations to obtain insurance pursuant to this Article 11. The obligation to procure and maintain any insurance required by this Article 11 is a separate responsibility of the Contractor and independent of the duty to furnish a certified copy or certificate of such insurance policies.

§ 11.3 PROPERTY INSURANCE

Delete Paragraph 11.3 and substitute the following:

§ 11.3 PROPERTY INSURANCE

- § 11.3.1 The Contractor shall purchase and maintain property insurance in the amount of the initial Contract Sum as well as subsequent modifications thereto for the entire Work at the site on a replacement cost basis. Such property insurance shall be maintained until final payment has been made as provided in Paragraph 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Paragraph 11.4 to be covered, whichever is earlier. This insurance shall only cover the work owned by the Owner at the time of loss.
- § 11.3.2 Property Insurance shall be written using a 'Builders Risk Coverage Form' with the following attached forms and endorsements:
- § 11.3.2.1 Causes of Loss - Special Form; (Risks of Direct Physical Loss unless the loss is excluded or limited by the Form)
- § 11.3.2.2 Causes of Loss - Earthquake Form; and
- § 11.3.2.3 Flood Insurance.
- § 11.3.3 Covered Property is the Building Under Construction described in the Policy Declarations owned by the Owner at the time of loss and includes:
- § 11.3.3.1 Foundations;
- § 11.3.3.2 If intended to become a permanent part of the building or structure described in the Declarations, the following property located in or on the building or structure or within 100 feet of its premises:
- (1) Fixtures, machinery and equipment used to service the building; and
 - (2) Building materials and supplies used for construction;
- § 11.3.3.3 If not covered by other insurance, temporary structures built or assembled on site, including cribbing, scaffolding and construction forms.

- § 11.3.4 Replacement of insured damaged work shall be covered by an appropriate Change Order. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.
- § 11.3.5 The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.
- § 11.3.6 The Contractor shall provide adequate insurance to protect the interests of the Contractor, Subcontractors, and Sub-subcontractors in the work.
- § 11.3.7 The Contractor shall be responsible for the deductible. The policy shall be written with a deductible of \$250 for each occurrence.

§ 11.4 PERFORMANCE BOND AND PAYMENT BOND

Delete Subparagraph 11.5.1 and substitute the following:

- § 11.4.1 The Contractor shall furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder. Bonds may be obtained through the Contractor's usual source and the cost thereof shall be included in the Contract Sum. The amount of each bond shall be equal to 100 percent (100%) of the Contract Sum.
- § 11.4.1.1 The Surety shall have, at a minimum, a "Best Rating" of "A" as stated in the most current publication of "Best's Key Rating Guide, Property-Casualty". In addition, the Surety shall have a minimum "Best Financial Strength Category" of "Class V", and in no case less than five (5) times the contract amount.
- § 11.4.1.2 The Performance Bond and the Payment Bond shall be written on standard forms of the Bonding Company, "Labor and Material Payment Bond", and both shall be made payable to the Owner.
- § 11.4.1.3 The Contractor shall deliver the required bonds to the Owner not later than three (3) days following the date the Agreement is entered into, or if the Work is to be commenced prior thereto in response to a letter of intent, the Contractor shall, prior to the commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished.
- § 11.4.1.4 The Contractor shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of the power of attorney.
- § 11.4.1.5 The Performance and Labor and Material Payment Bonds shall:
- (1) be issued by a surety company licensed to do business in North Carolina; and,
 - (2) be accompanied by a current power of attorney and certified by the attorney-in-fact who executes the bond on the behalf of the surety company; and,
 - (3) remain in effect for a period not less than one (1) year following the date of Substantial Completion or the time required to resolve any items of incomplete Work and the payment of any disputed amounts, whichever time period is longer; and,
 - (4) display the Surety's Bond Number. A rider including the following provisions

shall be attached to each Bond stating that:

- (a) The Surety hereby agrees that it consents to and waives notice of any addition, alteration, omission, change, or other modification of the Contract Documents. Any addition, alteration, change, extension of time, or other modification of the Contract Documents, or a forbearance on the part of either the Owner or the Contractor to the other, shall not release the Surety of its obligations hereunder, and notice to the Surety of such matters is hereby waived.
- (b) The Surety agrees that it is obligated under the bonds to any successor, grantee, or assignee of the Owner.
- (c) Notwithstanding the foregoing, any bonds required by this Contract shall meet the requirements of the NC Code of Laws, as amended.

Add Subparagraph 11.4.3 as follows:

§ 11.4.3 The Contractor shall furnish the required bonds to the Owner before execution of the Contract.

Add Subparagraph 11.4.4 as follows:

§ 11.4.4 The Contractor shall keep the Surety informed of the progress of the Work, and, where necessary, obtain the Surety's consent to, or waiver of:

§ 11.4.4.1 notices of changes in the Work;

§ 11.4.4.2 requests for reduction or release of retention;

§ 11.4.4.3 requests for final payment; and

§ 11.4.4.4 any other item required by the Surety.

The Owner may, in the Owner's sole discretion, inform the Surety of the progress of the Work and obtain consents as necessary to protect the Owner's rights, interest, privileges, and benefits under and pursuant to any bond issued in connection with the Work.

ARTICLE 12: UNCOVERING AND CORRECTION OF WORK

§ 12.1 UNCOVERING OF WORK

Delete Subparagraph 12.1.1 and insert the following:

§ 12.1.1 If a portion of the Work is covered contrary to the requirements specifically expressed in the Contract Documents, including, inspections of work-in-progress required by all authorities having jurisdiction over the Project, then the portion of Work so covered shall, upon demand of the A/E or the authority having jurisdiction, be uncovered for observation and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.2 CORRECTION OF WORK

Add the following to Clause 12.2.1.1: If, prior to the date of Substantial Completion, the Contractor, a Subcontractor, or anyone for whom either is responsible, uses or damages any portion of the Work, including, without limitation, mechanical, electrical, plumbing, and other building systems, machinery, equipment, or other mechanical device, the Contractor shall cause such item to be restored to "like new" condition at no expense to the Owner.

At the beginning of Clause 12.2.2.1 insert the title "CONTRACTOR'S WARRANTY PERIOD."

In the third sentence of Clause 12.2.2.1, delete the phrase "...and to make a claim for breach of warranty...".

At the end of Clause 12.2.2.3, add the phrase "...unless otherwise provided in the Contract Documents."

Add the following Section 12.2.2.4 to Section 12.2.2:

§12.2.2.4 Upon request by the Owner and prior to the expiration of one year from the date of Substantial Completion, the Architect will conduct and the Contractor shall attend a meeting with the Owner to review the facility operations and performance.

ARTICLE 13: MISCELLANEOUS PROVISIONS

§ 13.1 GOVERNING LAW

Delete Subparagraph 13.1.1 and substitute the following:

§ 13.1.1 The Contract shall be governed by and construed in accordance with the laws of the State of North Carolina, and any suit, action or proceeding arising out of or relating to the Contract shall be governed by the laws of the State of North Carolina.

§ 13.3 WRITTEN NOTICE

Delete Subparagraph 13.3.1 and substitute the following:

§ 13.3.1 All notices contemplated by the Contract Documents shall be in writing and shall be deemed duly given:

§ 13.3.1.1 upon actual delivery to the person identified in the A101, if delivery by hand; or,

§ 13.3.1.2 upon receipt by the transmitting party of confirmation or reply, if delivery is by facsimile, telex or telegram; or,

§ 13.3.1.3 upon receipt by the person identified in the A101, if delivery is by deposit into the United States mail, certified mail, return receipt requested.

Add Subparagraph 13.3.2 as follows:

§ 13.3.2 Each such notice shall be sent to the respective party at the address provided in the A101, or to any other address as the respective party may designate by notice delivered pursuant hereto.

§ 13.4 RIGHTS AND REMEDIES

Add Subparagraph 13.4.3 as follows:

§ 13.4.3 Termination of the Contract by either party for any reason shall not relieve the parties of any obligation theretofore accorded under this Contract. Notwithstanding Subparagraph 9.10.4, and without limiting the foregoing sentence, the following provisions (as amended) of the Contract Documents shall survive termination for whatever cause, expiration or completion:

- 1.6 Ownership and Use of Drawings, Specifications and Other Instruments of Service;
- 3.5 Warranty
- 3.17 Royalties, Patents and Copyrights
- 3.18 Indemnification
- 3.10 Waiver of Listed Damages
- 3.11 Waiver of Claims Against the A/E
- 4.5 Dispute Resolution
- 7.5.5 Cost or Pricing Data
- 11.1 Contractor's Liability Insurance
- 11.5 Performance and Payment Bond
- 12.2 Correction of Work
- 13.1 Governing Law
- 13.4 Rights and Remedies
- 13.8 Y2K Compliance
- 13.12 Retention and Audit of Contractor's Records

§ 13.5 TESTS AND INSPECTIONS

Add the following to Subparagraph 13.5.5: The Contractor shall give the A/E timely notice in advance of tests, inspections or approvals.

Add the following Paragraph 13.8:

§ 13.8 DRUG-FREE WORKPLACE

The Contractor certifies to the Owner that Contractor will provide a Drug-Free Workplace, as required by Article 5 of Chapter 90 of the NC General Statutes.

Add the following Paragraph 13.9:

§ 13.9 BANKRUPTCY

In the event the Contractor enters into proceedings relating to bankruptcy, whether voluntary or involuntary, the Contractor agrees to furnish written notification of the bankruptcy to the Owner. This notification shall be furnished within five (5) days of the initiation of the proceedings relating to the bankruptcy filing. This notification shall include the date on which the bankruptcy petition was filed, the identity of the court in which the bankruptcy petition was filed, and a listing of all State contracts against which final payment has not been made. This obligation remains in effect until final payment under this Contract.

Add the following Paragraph 3.10:

§ 13.10 RETENTION AND AUDIT OF CONTRACTOR'S RECORDS

The Owner shall be entitled, at reasonable times and places, to audit the books and records of both the Contractor and any subcontractor who has submitted cost or pricing data pursuant to this Contract, to the extent that such books and records relate to such cost or pricing data. If any cost or pricing data is required for this Contract or any Modification, the Contractor and any subcontractor shall maintain such books and records that relate to such cost or pricing data for three (3) years from the date of final payment under the Contract, unless a shorter period is otherwise authorized in writing by the Owner; provided, however, that such records shall be retained for additional periods of time beyond this three-year period upon request of the Chief Procurement Officer. If this Contract or any Modification (other than a firm fixed price contract) is negotiated, the Owner shall be entitled to audit the books and records of the Contractor and any subcontractor to the extent that such books and records relate to the performance of the Contract or any Modification. Such books and records shall be maintained by the Contractor for a period of three years from the date of final payment under the prime contract and by any subcontractor for a period of three years from the date of final payment under the subcontract, unless a shorter

period is otherwise authorized in writing by the Owner.

Add the following Subparagraph 13.11:

§ 13.11 UNIT PRICE WORK

§ 13.11.1 Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, the initial Contract Sum will be deemed to include an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as identified in the Contract. The estimated quantity for each item of Work represents the Owner's best estimate of the amount of each item to be required of the Contractor, but the amounts are not guaranteed, and are solely for the purpose of comparison of Bids and determining an initial Contract Sum. Determinations of the actual quantities and classifications of Unit Price Work performed by the Contractor will be made by the A/E as described below.

§ 13.11.2 Subject to an adjustment pursuant to Subparagraph 4.3.9, each unit price will be deemed to include an amount considered by the Contractor to be adequate to cover the Contractor's total costs, including overhead and profit, for each separately identified item.

§ 13.11.3 The A/E will determine the actual quantities and classifications of Unit Price Work performed by the Contractor. The A/E will review with the Contractor its preliminary determinations on such matters before rendering a written decision or issuing a recommendation on the Contractor's Applications for Payment. The A/E's written decisions or recommendations will be final and binding on the Owner and the Contractor, except as modified by the A/E to reflect changed factual conditions or more accurate data, and subject to Paragraph 4.4. For purposes of Paragraph 4.4, the A/E's written decisions or recommendations shall serve as the A/E's initial decision.

Add the following Subparagraph 13.12:

§ 13.12 PROCUREMENT OF MATERIALS BY OWNER.

The Contractor accepts assignment of, and liability for, all purchase orders and other agreements for procurement of materials and equipment that are identified as part of the Contract Documents. The Contractor shall be responsible for such pre-purchased items, if any, as if the Contractor were the original purchaser. The Contract Sum includes, without limitation, all costs and expenses in connection with delivery, storage, insurance, installation, and testing of items covered in any assigned purchase orders or agreements. All warranty and correction of the Work obligations under the Contract Documents shall also apply to any pre-purchased items, unless the Contract Documents specifically provide otherwise.

ARTICLE 14: TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 TERMINATION BY THE CONTRACTOR

In Subparagraph 14.1, change "...30..." to "...sixty (60)".

Delete Clauses 14.1.1.3 and 14.1.1.4.

In Subparagraph 14.1.3, delete all words after "...Work executed..." and add "...Any adjustment to the Contract Sum made pursuant to this Subparagraph shall be made in accordance with the requirements of Paragraph 7.5."

§ 14.2 TERMINATION BY THE OWNER FOR CAUSE

Delete Subparagraph 14.2.1 and substitute the following:

- § 14.2.1 The Owner may terminate the Contract, or any separable part of it, if the Contractor:
 - § 14.2.1.1 fails to complete the Work within the time specified in the Contract Documents, including any authorized adjustments; or,
 - § 14.2.1.2 fails to prosecute the Work, or any separable part of the Work, with the diligence, resources and skill that will ensure its completion within the time specified in the Contract Documents, including any authorized adjustments; or,
 - § 14.2.1.3 fails to make payment to Subcontractors for materials or labor in accordance with NCGS 22C, as amended, and the respective agreements between the Contractor and the Subcontractors; or,
 - § 14.2.1.4 persistently disregards laws, ordinances, or rules, regulations or orders of a public authority having jurisdiction; or,
 - § 14.2.1.5 fails to proceed as required by Subparagraph 4.3.3 pending final resolution of a Claim; or,
 - § 14.2.1.6 fails to comply with any of the other material provisions of this Contract.

Delete Subparagraph 14.2.2, but not the subordinate Clauses and substitute the following:

- § 14.2.2 The Owner's right to terminate this Contract under Subparagraph 14.2.1 may be exercised if the Contractor does not cure such failure within seven (7) days (or more if authorized in writing by the Owner) after receipt of the notice from the Owner specifying the general nature of the failure. The Owner shall notify the Contractor's surety within a reasonable time. When terminating pursuant to Paragraph 14.2, the Owner may, without prejudice to any other rights or remedies of the Owner, and subject to any prior rights of the surety:

Insert "...including Liquidated Damages, if any,..." after the phrase "...other damages..." in the first sentence of Subparagraph 14.2.4.

§ 14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE

Insert the following to Subparagraph 14.3.2 after the second sentence: Any adjustment to the Contract Sum made pursuant to this Subparagraph shall be made in accordance with the requirements of Paragraph 7.5.

§ 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

Delete Subparagraph 14.4.1 and substitute the following:

- § 14.4.1 The Owner may, at any time, terminate the Contract, or the Contract Work, in whole or in part, for the Owner's convenience and without cause.
 - § 14.4.1.1 Upon written consent of the Contractor, the Owner may reinstate the terminated portion of this Contract or Contract Work in whole or in part by amending the notice of termination if it has been determined that

§ 14.4.1.2 circumstances clearly indicate a requirement for the terminated work; and,

§ 14.4.1.3 reinstatement of the terminated work is advantageous to the Owner.

Add the following Clause to Subparagraph 14.4.2:

§ 14.4.2.4 complete the performance of the Work not terminated, if any.

In Subparagraph 14.4.3 delete the phrase "...along with reasonable overhead and profit on the Work not executed.", and substitute "Any adjustment to the Contract Sum made pursuant to this Subparagraph shall be made in accordance with the requirements of Paragraph 7.5."

END OF DOCUMENT

**REFERENCE IS MADE TO AIA DOCUMENTS AND ARE HEREBY MADE A PART OF THE
CONTRACT DOCUMENTS:**

INSTRUCTIONS TO BIDDERS	(AIA DOCUMENT A701)
STANDARD FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR	(AIA DOCUMENT A101)
GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION	(AIA DOCUMENT A201)
APPLICATION AND CERTIFICATE FOR PAYMENT	(AIA DOCUMENT G702/703)
CERTIFICATE OF SUBSTANTIAL COMPLETION	(AIA DOCUMENT G704)
CONTRACTORS AFFIDAVIT OF PAYMENTS AND DEBTS AND CLAIMS	(AIA DOCUMENT G706)
CONTRACTOR'S AFFIDAVIT OF RELEASE OF LIENS	(AIA DOCUMENT G706A)
CONSENT OF SURETY COMPANY TO FINAL PAYMENT	(AIA DOCUMENT G707)
CHANGE ORDER	(AIA DOCUMENT G701)

DOCUMENTS MAY BE VIEWED AT:

MARK LUSK ARCHITECTURE PLLC
128 WOODBURN DRIVE
SWANNANOVA, NC 28778

SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

Section includes:

Project information.
Work covered by Contract Documents.
Work by Owner.
Purchase contracts.
Access to site.
Work restrictions.
Specification and drawing conventions.

1.3 PROJECT INFORMATION

Project Identification: HCPS Entrance Security Renovations

Project Location: Henderson County, North Carolina.

Owner: Henderson County School District, 414 Fourth Avenue West, Hendersonville NC 28739.

Owner's Representative: Martin Ballard, Facilities Director.

Architect: Mark Lusk Architecture, PLLC; 128 Woodburn Drive, Swannanoa, NC 28778.

1.4 WORK COVERED BY CONTRACT DOCUMENTS

The Work of the Project is defined by the Contract Documents and consists of the following:

Provide modification to the existing main office entrances:

- West Henderson High School
- Dana Elementary School
- Marlow Elementary School
- Etowah Elementary School

Type of Contract

Project will be constructed under a single prime contract.

1.5 WORK BY OWNER

General: Cooperate fully with Owner so work may be carried out smoothly, without interfering with or delaying work under this Contract.

1.6 ACCESS TO SITE

General: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.

Use of Site: Limit use of Project site to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

Driveways, Walkways and Entrances: Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.

Schedule deliveries to minimize use of driveways and entrances by construction operations.

Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weather-tight condition throughout construction period. Repair damage caused by construction operations.

1.7 COORDINATION WITH OCCUPANTS

Partial Owner Occupancy: Owner will occupy the premises during entire construction period, with the exception of areas under construction. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's operations. Maintain existing exits unless otherwise indicated.

Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.

Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and authorities having jurisdiction.

Provide not less than 72 hours' notice to Owner of activities that will affect Owner's operations.

1.8 WORK RESTRICTIONS

Work Restrictions, General: Comply with restrictions on construction operations.

Comply with limitations on use of public streets and other requirements of authorities having jurisdiction.

Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:

Controlled Substances: Use of tobacco products and other controlled substances within the existing building and on the Project site is not permitted.

1.9 SPECIFICATION AND DRAWING CONVENTIONS

Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

Specification requirements are to be performed by Contractor unless specifically stated otherwise.

Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.

Drawing Coordination: Requirements for materials and products identified on the Drawings are described in detail in the Specifications. One or more of the following are used on the Drawings to identify materials and products:

Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.

Abbreviations: Materials and products are identified by abbreviations published as part of the U.S. National CAD Standard and scheduled on Drawings.

Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION **011000**

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

Section includes administrative and procedural requirements for handling and processing Contract modifications.

1.3 MINOR CHANGES IN THE WORK

Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions."

1.4 PROPOSAL REQUESTS

Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.

Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.

Within time specified in Proposal Request after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.

Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.

Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.

Include costs of labor and supervision directly attributable to the change.

Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

Quotation Form: Use forms acceptable to Architect.

Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Architect.

Include a statement outlining reasons for the change and the effect of the change on the Work.

Provide a complete description of the proposed change. Indicate the effect of the

proposed change on the Contract Sum and the Contract Time.
Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts. Include costs of labor and supervision directly attributable to the change.
Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
Comply with requirements in Division 01 Section "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
Proposal Request Form: Use form acceptable to Architect.

1.5 CHANGE ORDER PROCEDURES

On Owner's approval of a Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

1.6 CONSTRUCTION CHANGE DIRECTIVE

Change Directive: Architect may issue a Change Directive on AIA Document G714. Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.

Documentation: Maintain detailed records on a time and material basis of work required by the Change Directive.

After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION **012600**

SECTION 012900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.

DEFINITIONS

Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.3 SCHEDULE OF VALUES

Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.

Correlate line items in the schedule of values with other required administrative forms and schedules, including the following:

Application for Payment forms with continuation sheets.

Submittal schedule.

Items required to be indicated as separate activities in Contractor's construction schedule.

Submit the schedule of values to Architect at earliest possible date but no later than seven days before the date scheduled for submittal of initial Applications for Payment.

Arrange schedule of values consistent with format of AIA Document G703.

Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide multiple line items for principal subcontract amounts in excess of five percent of Contract Sum.

Include separate line items under Contractor and principal subcontracts for project closeout requirements in an amount totaling five percent of the Contract Sum and subcontract amount.

Round amounts to nearest whole dollar; total shall equal the Contract Sum.

Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.

Differentiate between items stored on-site and items stored off-site. If required, include evidence of insurance.

Provide separate line items in the schedule of values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.

Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.

Schedule Updating: Update and resubmit the schedule of values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.4 APPLICATIONS FOR PAYMENT

Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.

Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.

Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.

Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.

Entries shall match data on the schedule of values and Contractor's construction schedule.

Use updated schedules if revisions were made.

Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.

Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.

Indicate separate amounts for work being carried out under Owner-requested project acceleration.

Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.

Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment, for stored materials.

Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.

Provide summary documentation for stored materials indicating the following:

Materials previously stored and included in previous Applications for Payment.

Work completed for this Application utilizing previously stored materials.
Additional materials stored with this Application.
Total materials remaining stored, including materials with this Application.

Transmittal: Submit three signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.

Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.

Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.

Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.

This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION **012900**

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

Section includes requirements for temporary utilities, support facilities, and security and protection facilities.

1.3 USE CHARGES

Water and Sewer Service from Existing System: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

Electric Power Service from Existing System: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

1.4 PROJECT CONDITIONS

Temporary Use of Permanent Facilities: Engage installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

PART 2 - PRODUCTS

EQUIPMENT

Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

EXECUTION

2.1 TEMPORARY UTILITY INSTALLATION

Water Service: Connect to Owner's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.

Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.

Electric Power Service: Connect to Owner's existing electric power service. Maintain equipment in a condition acceptable to Owner.

2.2 SUPPORT FACILITIES INSTALLATION

Parking: Use designated areas of Owner's existing parking areas for construction personnel.

Waste Disposal Facilities: If required, provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with Division 01 Section "Execution" for progress cleaning requirements.

Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.

Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

2.3 SECURITY AND PROTECTION FACILITIES INSTALLATION

Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.

Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241.

Prohibit smoking in construction areas.

Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.

Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.

2.4 MOISTURE AND MOLD CONTROL

Contractor's Moisture-Protection Plan: Avoid trapping water in finished work. Document visible signs of mold that may appear during construction.

Exposed Construction Phase: If required in the work, before installation of weather barriers, when materials are subject to wetting and exposure and to airborne mold spores, protect as follows:

Protect porous materials from water damage.

Protect stored and installed material from flowing or standing water.

Keep porous and organic materials from coming into prolonged contact with concrete.

Remove standing water from decks.

Keep deck openings covered or dammed.

END OF SECTION **015000**

SECTION 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

Section includes administrative and procedural requirements for the following:
Disposing of nonhazardous waste.

1.3 DEFINITIONS

Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.

Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.

Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION--If Required

General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.

Comply with Division 01 Section "Temporary Facilities and Controls" for operation, termination, and removal requirements.

Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

3.2 DISPOSAL OF WASTE

General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste

materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.

Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

Burning: Do not burn waste materials.

Disposal: Transport waste materials and dispose of at designated spoil areas on Owner's property.

Disposal: Transport waste materials off Owner's property and legally dispose of them.

END OF SECTION 017419

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:

- Substantial Completion procedures.
- Final completion procedures.
- Warranties.
- Final cleaning.

Related Sections:

Divisions 02 through 49 Sections for specific closeout and special cleaning requirements for the Work in those Sections.

1.3 SUBSTANTIAL COMPLETION

Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete with request.

Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
Results of completed inspection will form the basis of requirements for final completion.

1.4 FINAL COMPLETION

Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

Reinspection: Request reinspection when the Work identified in previous inspections as

incomplete is completed or corrected.

1.5 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1.6 WARRANTIES

Submittal Time: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.

PART 2 - PRODUCTS

2.1 MATERIALS

Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

Construction Waste Disposal: Comply with waste disposal requirements in Division 01 Section "Temporary Facilities and Controls." and Division 01 Section "Construction Waste Management and Disposal."

END OF SECTION **017700**

SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.1 SUMMARY

Section includes administrative and procedural requirements for project record documents, including the following:

- Record Drawings.
- Record Specifications.
- Record Product Data.
- Miscellaneous record submittals.

Related Sections:

Divisions 02 through 49 Sections for specific requirements for project record documents of the Work in those Sections.

1.2 CLOSEOUT SUBMITTALS

Record Drawings: Comply with the following:

Number of Copies: Submit one set(s) of marked-up record prints.

Record Specifications: Submit one paper copy or annotated PDF electronic files of Project's Specifications, including addenda and contract modifications.

Record Product Data: Submit one paper copy or annotated PDF electronic files and directories of each submittal.

Where record Product Data are required as part of operation and maintenance manuals, submit duplicate marked-up Product Data as a component of manual.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings.

Preparation: Mark record prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.

Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
Accurately record information in an acceptable drawing technique.
Record data as soon as possible after obtaining it.
Record and check the markup before enclosing concealed installations.
Cross-reference record prints to corresponding archive photographic documentation.

Mark the Contract Drawings and Shop Drawings completely and accurately. Utilize personnel proficient at recording graphic information in production of marked-up record prints.
Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
Mark important additional information that was either shown schematically or omitted from original Drawings.
Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

Record Digital Data Files: Immediately before inspection for Certificate of Substantial Completion, review marked-up record prints with Architect. When authorized, prepare a full set of corrected digital data files of the Contract Drawings, as follows:

Format: Annotated PDF electronic file with comment function enabled.

Format: Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.

Format: Annotated PDF electronic file with comment function enabled.
Identification: As follows:

Project name.
Date.
Designation "PROJECT RECORD DRAWINGS."
Name of Architect.
Name of Contractor.

2.2 RECORD SPECIFICATIONS

Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.

Format: Submit record Specifications as scanned PDF electronic file(s) of marked up paper copy of Specifications.

2.3 RECORD PRODUCT DATA

Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.

Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.

Note related Change Orders, record Specifications, and record Drawings where applicable.

Format: Submit record Product Data as scanned PDF electronic file(s) of marked up paper copy of Product Data.

PART 3 - EXECUTION

2.4 RECORDING AND MAINTENANCE

Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and modifications to project record documents as they occur; do not wait until the end of Project.

END OF SECTION **017839**

SECTION 061000 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Wood blocking and nailers.
- B. Related Sections include the following:
 - Division 31 Section "Termite Control" for site application of borate treatment to wood framing.

1.3 DEFINITIONS

Dimension Lumber: Lumber of 2 inches nominal or greater but less than 5 inches nominal in least dimension.

Lumber grading agencies, and the abbreviations used to reference them, include the following:

- 1. NeLMA: Northeastern Lumber Manufacturers' Association.
SPIB: The Southern Pine Inspection Bureau.

1.4 SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
 - 1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.
Include copies of warranties from chemical treatment manufacturers for each type of treatment.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Stack lumber flat with spacers between each bundle to provide air circulation. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.

- 1. Factory mark each piece of lumber with grade stamp of grading agency. For exposed lumber indicated to receive a stained or natural finish, mark grade stamp on end or back of each piece.

Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.

Provide dressed lumber, S4S, unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

- A. Preservative Treatment by Pressure Process: AWPA C2.

- 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.

For exposed items indicated to receive a stained or natural finish, use chemical formulations that do not require incising, contain colorants, bleed through, or otherwise adversely affect finishes.

- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or does not comply with requirements for untreated material.

Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.

- 1. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece.

- C. Application: Treat items indicated on Drawings, and the following:

- 1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.

Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.

2.3 MISCELLANEOUS LUMBER

A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:

1. Blocking.
Nailers.

For items of dimension lumber size, provide Construction or No. 2 grade lumber with 19 percent maximum moisture content and any of the following species:
Mixed southern yellow -pine; SPIB.
Eastern softwoods; NeLMA.

B. For exposed boards, provide lumber with 19 percent maximum moisture content and any of the following species and grades:

1. Eastern white pine, Idaho white, lodgepole, ponderosa, or sugar pine; Premium or 2 Common (Sterling) grade; NeLMA, NLGA, WCLIB, or WWPA.
Mixed southern yellow pine, No. 2 grade; SPIB.

C. For concealed boards, provide lumber with 19 percent maximum moisture content and any of the following species and grades:

1. Mixed southern yellow pine, No. 2 grade; SPIB.
Eastern softwoods, No. 2 Common grade; NeLMA.

D. For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.

For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

2.4 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and manufacture.

1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners of Type 304 stainless steel. Fasteners in contact with preservative treated wood shall be as approved by the wood preservative manufacturer.

B. Nails, Brads, and Staples: ASTM F 1667.

Power-Driven Fasteners: NES NER-272.

Wood Screws: ASME B18.6.1.

Lag Bolts: ASME B18.2.1.

Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and, where indicated, flat washers.

Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry assemblies and equal to 4 times the load imposed when installed in concrete as determined by testing per ASTM E 488 conducted by a qualified independent testing and inspecting agency.

Material: Stainless steel with bolts and nuts complying with ASTM F 593 and ASTM F 594, Alloy Group 1 or 2.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.

Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.

1. Provide metal clips for fastening gypsum board or lath at corners and intersections where framing or blocking does not provide a surface for fastening edges of panels. Space clips not more than 16 inches o.c.

- B. Sort and select lumber so that natural characteristics will not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.

Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.

1. Use inorganic boron for items that are continuously protected from liquid water. Use copper naphthenate for items not continuously protected from liquid water.

- C. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.

- D. Use common wire nails, unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without

splitting wood; do not countersink nail heads, unless otherwise indicated.

For exposed work, arrange fasteners in straight rows parallel with edges of members, with fasteners evenly spaced, and with adjacent rows staggered.

1. Comply with approved fastener patterns where applicable. Before fastening, mark fastener locations, using a template made of sheet metal, plastic, or cardboard.

Use finishing nails, unless otherwise indicated. Countersink nail heads and fill holes with wood filler.

3.2 WOOD BLOCKING, AND NAILER INSTALLATION

- A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.

Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces, unless otherwise indicated.

3.3 PROTECTION

- A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

Protect rough carpentry from weather. If, despite protection, rough carpentry becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 06100

SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 INFORMATIONAL SUBMITTALS

Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, indicating that sealants comply with requirements.

1.3 QUALITY ASSURANCE

Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.

Source Limitations: Obtain each kind of joint sealant from single source from single manufacturer.

1.4 PROJECT CONDITIONS

Provide specified joint sealants only as applicable to project conditions

Do not proceed with installation of joint sealants under the following conditions:

When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F.

When joint substrates are wet.

Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.

Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.5 WARRANTY

Special warranties specified in this article exclude deterioration or failure of joint sealants from the following:

Movement of the structure caused by structural settlement or errors attributable to design or construction resulting in stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression.

Disintegration of joint substrates from natural causes exceeding design specifications.

Mechanical damage caused by individuals, tools, or other outside agents.

Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.

Liquid-Applied Joint Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied joint sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.

Suitability for Immersion in Liquids. Where sealants are indicated for Use I for joints that will be continuously immersed in liquids, provide products that have undergone testing according to ASTM C 1247. Liquid used for testing sealants is deionized water, unless otherwise indicated.

Stain-Test-Response Characteristics: Where sealants are specified to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.

Suitability for Contact with Food: Where sealants are indicated for joints that will come in repeated contact with food, provide products that comply with 21 CFR 177.2600.

Colors of Exposed Joint Sealants: Match adjacent materials.

General: Provide sealant backings of material that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated
MISCELLANEOUS MATERIALS

Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.

Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.

Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:

Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.

Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:

- Concrete.
- Masonry.

Remove laitance and form-release agents from concrete.

Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:

- Metal.
- Glass.

Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

Do not leave gaps between ends of sealant backings.

Do not stretch, twist, puncture, or tear sealant backings.

Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.

Install sealants using proven techniques that comply with the following and at the same time backings are installed:

- Place sealants so they directly contact and fully wet joint substrates.
- Completely fill recesses in each joint configuration.
- Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.

- Remove excess sealant from surfaces adjacent to joints.
- Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
- Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.
- Provide flush joint profile where indicated per Figure 8B in ASTM C 1193.
- Provide recessed joint configuration of recess depth and at locations indicated per Figure 8C in ASTM C 1193.

Use masking tape to protect surfaces adjacent to recessed tooled joints.

Installation of Preformed Silicone-Sealant System: Comply with the following requirements:

- Apply masking tape to each side of joint, outside of area to be covered by sealant system.
- Apply silicone sealant to each side of joint to produce a bead of size complying with preformed silicone-sealant system manufacturer's written instructions and covering a bonding area of not less than 3/8 inch. Hold edge of sealant bead 1/4 inch inside masking tape.
- Within 10 minutes of sealant application, press silicone extrusion into sealant to wet extrusion and substrate. Use a roller to apply consistent pressure and ensure uniform contact between sealant and both extrusion and substrate.
- Complete installation of sealant system in horizontal joints before installing in vertical joints. Lap vertical joints over horizontal joints. At ends of joints, cut silicone extrusion with a razor knife.

Installation of Preformed Foam Sealants: Install each length of sealant immediately after removing protective wrapping. Do not pull or stretch material. Produce seal continuity at ends, turns, and intersections of joints. For applications at low ambient temperatures, apply heat to sealant in compliance with sealant manufacturer's written instructions.

Acoustical Sealant Installation: At sound-rated assemblies and elsewhere as indicated, seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C 919 and with manufacturer's written recommendations.

3.4 CLEANING

Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.5 PROTECTION

Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

END OF SECTION 079200

SECTION 081213 – HOLLOW METAL FRAMES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Hollow metal frames.
 - 2. Borrowed lights.

- B. Related Requirements:
 - 1. Section 08 14 16 - Flush Wood Doors: For wood doors installed in hollow metal frames.
 - 2. Section 08 71 00 - Door Hardware: For door hardware for hollow metal frames.
 - 3. Section 08 80 00 - Glazing: For glass and glazing in hollow metal frames.
 - 4. Section 09 90 00 - Painting: For field painting of hollow metal frames.

1.2 DEFINITIONS

- A. Minimum Thickness: Minimum uncoated base metal steel sheet thickness complying with NAAMM HMMA 803-08 Steel Tables.

1.3 COORDINATION

- A. Coordinate Work of this Section with wall construction types for proper anchorage of hollow metal frames.

1.4 SUBMITTALS

- A. Product Data: Submit manufacturer's product data for specified products and fabrications.

- B. Shop Drawings and Schedules: Provide frame schedule and detailed drawings of fabrication and assembly, including the following information:
 - 1. Identification of each opening, cross-referenced to the construction documents using the same opening designations and numbering indicated.
 - 2. Dimensioned frame product elevations, sections and profiles. Provide dimensions for proper edge clearances of doors, including meeting stiles for pairs of doors going into metal frames.
 - 3. Material thicknesses, anchors and fastening.
 - 4. Locations of welded and interlocking joints and connections, including field splices.
 - 5. Show construction, hardware preparation, reinforcement, moldings, stops, trims and accessories. Coordinate with the final approved door hardware schedule.
 - 6. Explanation of abbreviations, symbols, and nomenclature contained in submittal.
 - 7. Details and locations of smoke seals and weather stripping of frames.
 - 8. Preparation for wiring and electrified hardware.

1.5 QUALITY ASSURANCE

- A. Door Frame Inspection: Contractor with Installer shall inspect each door frame, checking frame for squareness, alignment, twist, plumbness and anchor attachment before installation of wallboard [and masonry] to assure proper fit of doors with correct clearances and operation without modification to the door. Frames that are out of tolerance shall be reinstalled to

requirements.

1.6 QUALIFICATIONS

- A. Manufacturer: Member of National Association of Architectural Metal Manufacturers (NAAMM), that manufacturers in accordance with standards set by the Hollow Metal Manufacturers Association (HMMA) for fabrication methods and product quality.
 - 1. Company specializing in manufacturing products specified in this Section with minimum five years' experience.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Package or crate materials to provide protection during transit and delivery.
- B. Remove wraps or covers upon delivery at the building site and ensure that scratches or disfigurement caused by shipping or handling are promptly cleaned and touched up with a rust inhibitive primer.
- C. Inspect hollow metal work on delivery for damage; notify shipper and supplier if damage is found. Minor damages may be repaired provided refinished items match new work and are acceptable to Architect. Remove and replace damaged items that cannot be repaired as directed.
- D. Comply with HMMA 840. Properly store on planks or dunnage in a dry location. Welded frame product shall be stored in a vertical position, spaced by blocking. Materials shall be covered to protect them from damage but in such a manner as to permit air circulation.

1.8 EXISTING CONDITIONS

- A. Field Measurements: Verify field measurements prior to fabrication. Indicate field measurements on Shop Drawings.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. Acceptable Manufacturer: Submit for approval.

2.2 HOLLOW METAL FRAMES

- A. Interior Hollow Metal Frames
 - 1. Face sheets fabricated from metallic-coated steel sheet.
 - a. Zinc-Coating: A40 galvanized.
- B. Steel Sheet Thickness:
 - 1. Doors
 - a. 0.053 inch [for _____ doors].
 - 2. Borrowed Lights: 0.053 inch.
 - 3. Fabricate frames as face welded unless otherwise indicated.
 - 4. Exposed Finish: Primer.

2.3 MATERIALS

- A. Metallic-Coated Steel Sheet: Zinc-coated steel sheet conforming to ASTM A 653 CS Type B, Coating Designation A40.
- B. Frame Anchors, Internal Door Components and Reinforcements: Zinc-coated steel sheet conforming to ASTM A 653 CS Type B, Coating Designation A40.
- C. Inserts, Bolts, and Fasteners: ASTM A 153 hot-dip galvanized.
- D. Power-Actuated Fasteners: Corrosion resistant fasteners of size and configuration for applicable attachment configurations and substrates.

2.4 FABRICATION

- A. General: Comply with NAAMM's HMMA 800 through 850 Series documents, unless more stringent requirements are specified. Fabricate hollow metal work to be neat and uniform in appearance and free from warpage or buckle. Edge bends shall be true and straight and of minimum radius for the thickness of metal used. Assemble units at the manufacturer's facility to the maximum extent possible.
 - 1. Before shipment, mark each frame with an identification number as shown on approved submittal drawings and door schedule.
 - 2. Tolerances and Clearances: Comply with HMMA 840.
- B. Hollow Metal Frames:
 - 1. Construction:
 - a. Frame product shall have integral stops of sizes and types shown on approved shop drawings.
 - b. Jamb, header, mullion and sill profiles shall be in accordance with the frame schedule and as shown on the approved submittal drawings.
 - c. Corner joints shall have all contact edges closed tight with faces mitered and stops butted.
 - d. Minimum height of stops shall be 5/8-inch.
 - e. Frames shall be prepared for single stud, resilient door silencers, three per strike jamb for single door openings, two per head for pairs, except on gasketed or weather stripped frame product. Silencers shall be supplied and installed by others.
 - f. Welding:
 - 1) Perimeter face joints (flush or indented) shall be continuously welded internally or externally. Flush face joints shall be finished smooth with seamless faces. Rabbets and soffits shall be continuously welded internally.
 - 2) Internal flush face joints shall be continuously welded and finished smooth with seamless faces.
 - 3) Members at internal indented intersections shall be securely welded to concealed reinforcements, and have hairline face seams.
 - 4) All other intersection elements shall have hairline seams.
 - 5) Provide welded frames with temporary steel spreader bar welded to the feet of the jambs or mullions to serve as bracing during shipping and handling only. Spreader bars to be removed before installation.
 - g. Knocked-Down Frames: Flush corner joints with steel reinforcing gussets with integral concealed tabs and slots which securely interlock upon assembly. Assembled corner joint shall provide tight mitered joints with flush faces.
 - h. Hardware Reinforcements and Preparations:
 - 1) Frames shall be mortised, reinforced, drilled and tapped at the factory for templated hardware only, in accordance with the approved hardware schedule and templates provided by the hardware supplier. Where surface mounted non-templated hardware apply, frames shall be reinforced, with

- drilling and tapping done by others in the field.
- 2) Minimum steel thickness for hardware reinforcements shall be as follows:
 - a) Full Mortise Hinges and Pivots: 0.184 inch.
 - b) Continuous Hinges: 0.067 inch.
 - c) Strikes, Pivots, Concealed Holders, or Surface Mounted Closers: 0.093 inch.
 - d) Overhead Stops: 0.093 inch.
 - e) Plaster Guards: Formed from same material as frames, not less than 0.016-inch thick steel sheet to close off interior of openings; place at back of hardware cutouts where mortar or other materials might obstruct hardware installation and operation.
 2. Floor Anchors: Provide floor anchors for frames, unless indicated otherwise. Floor anchors are in addition to jamb anchors.
 - a. Formed from same material and thickness as frames, but not less than 0.053 inch thick.
 - b. Weld anchors to bottom of jambs and mullions with at least four spot welds per anchor. Provide two holes for fastening to substrate.
 - c. [Topping Slabs: Where specified or scheduled, provide adjustable floor anchors, providing not less than 2 inch height adjustment.]
 3. Jamb Anchors: Frames shall be provided with anchorage appropriate to frame and wall construction. Anchor requirements below are in addition to floor anchors.
 - a. Masonry Anchors: Adjustable jamb anchors of the strap and stirrup or T-strap type not less than 0.053 inch thickness. Straps shall be not less than 2 inches by 10 inches in size, corrugated or perforated. Jamb anchors shall be placed at a maximum of 18 inches from top and bottom of openings. The minimum number of anchors spaced at maximum 32 inches on center, provided on each jamb, based on the over-all frame height, shall be as follows:
 - 1) Up to 60 inches: 3 jamb anchors and one floor anchor.
 - 2) Greater than 60 inches, up to 90 inches: 3 jamb anchors and one floor anchor.
 - 3) Greater than 90 inches, up to 96 inches: 4 jamb anchors and one floor anchor.
 - 4) Greater than 96 inches: 5 jamb anchors plus one for each 24 inches or fraction thereof, spaced at 32 inches maximum between anchors and one floor anchor.
 - b. Stud Wall Anchors: Combination anchor, not less than 0.053 inch thickness. Jamb anchors shall be placed at a maximum of 18 inches from top and bottom of openings. The minimum number of anchors spaced at maximum 32 inches on center, provided on each jamb, based on the over-all frame height, shall be as follows:
 - 1) Up to 86 inches: 3 jamb anchors and one floor anchor.
 - 2) Greater than 86 inches, up to 96 inches: 4 jamb anchors and one floor anchor.
 - 3) Greater than 96 inches: 5 jamb anchors plus one for each 24 inches or fraction thereof, spaced at 32 inches maximum between anchors and one floor anchor.
 - c. Compression Anchors: Provide slip-on drywall frames for installation in stud partitions with an adjustable compression anchor in each jamb and provide for secure attachment of each jamb base to stud runners. Provide anchor straps on both sides of bottom of frame jambs to receive screw fasteners.
 - d. Existing Wall Anchors: Provide countersunk holes to receive 0.375 inch diameter screw fasteners, with a spacer within the jamb profile. Place anchors a maximum of 6 inches from the top and bottom of the frame, with intermediate spacing at a maximum of 24 inches on center. Provide anchors for installation by others.
 - e. Glazing Moldings and Stops:

- 1) Provide with steel moldings to secure glazing materials, in accordance with glazing sizes and thickness shown in the contract documents.
- 2) Removable glass stops shall be channel shaped, not less than 0.032 inch thickness, with tight fitting butt or mitered corners, and secured with #6 minimum, corrosion resistant countersunk sheet metal screws.
- 3) Metal surfaces to which glazing stops are applied, and the inside of the glazing stops shall be treated for maximum paint adhesion and painted with a rust inhibitive primer prior to installation of the stop.
- 4) Glazing stops to have same zinc-coating and primer finish as the frames.
- 5) Fire rated frames shall be prepared for listed glazing as required in accordance with the manufacturer's fire rating procedure.
- 6) Fasteners: Zinc coated phillips head self-tapping screws. Fasteners located on secure side of opening.

2.5 FINISH

- A. Preparation: After fabrication, fill and sand all tool marks and surface imperfections as required to make surfaces free from irregularities and dressed smooth.
 1. Galvannealed surfaces shall be wiped clean, removing dirt, oils and metal filings.
 2. Galvanized surfaces shall be cleaned and etched in accordance with primer manufacturer requirements.
 3. At exterior hollow metal work, repair galvanized surfaces with zinc-rich primer.
- B. Primer: Rust inhibitive alkyd primer that permits latex and alkyd architectural coatings and two-component epoxies, aliphatic urethanes and oleo resinous industrial coating systems.
- C. Prime coat external surfaces including faces, and vertical, top and bottom edges. Prime coat concealed glazed opening surfaces and glazing stops.
- D. Fully cure primer before shipment.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Section 01 70 00 - Execution and Closeout Requirements specifies requirements for installation examination.
- B. Verify that substrate conditions, whether existing or installed under other Sections, are as detailed in the construction drawings, and are acceptable for product installation in accordance with the manufacturer's instructions.
- C. Check the area of floor on which the frame is to be installed, and within the path of door swing, for flatness and levelness.
- D. Check slabs for location and depth of conduits and piping to ensure clearance from power-actuated fasteners and post installation fasteners.
- E. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Check doors and frame for correct size, swing, fire-rating, and opening number. Verify adequate floor clearance above finish flooring scheduled for the door location, providing not less than 1/4 inch floor clearance from finish floor.

- B. Remove temporary steel spreader bars before installation. Dress smooth area of removal by grinding and filling, removing tool marks and surface imperfections. At exterior hollow metal work, repair galvanized surfaces with zinc-rich primer.
- C. [Coat concealed frame surfaces to come in contact with mortar grout with a field applied monolithic bituminous barrier coating.]

3.3 INSTALLATION

- A. General Installation: Install hollow metal work plumb, level, rigid and in true alignment. Comply with According to HMMA 840, manufacturer's instructions and the following. Install labeled fire doors and frames according to NFPA 80.
- B. Hollow Metal Frames:
 - 1. Set frames in proper location, temporarily braced, shimmed and held in position until permanently anchored.
 - a. Properly space frame using wood template not less than 1 inch thick, that is nearly full depth of frame and of proper spacing width during setting and anchoring of frames to maintain proper width, with frame plumb and square without twists. Provide additional spreader at mid height to correct or prevent bowing of frames and secure to maintain proper opening and clearance tolerances. Remove temporary braces necessary for installation after frames have been properly set and secured.
 - b. Where frames are fabricated and shipped in sections, field splice at approved locations by welding face joint continuously or mechanical splice with recessed screws and filled. Dress smooth by grinding and filling, removing tool marks and surface imperfections. At exterior hollow metal work, repair galvanized surfaces with zinc-rich primer.
 - c. Floor Anchors: Provide for each jamb and mullion, and secure to substrate with not less than two power-actuated fasteners or post installation screw fasteners per anchor.
 - d. Masonry Walls: Masonry anchors, set into mortar joints and grouted as masonry installation progresses. Provide floor anchor at each jamb, in addition to wall anchors.
 - 1) Coordinate installation of silencers in frames before mortar grout placement.
 - e. Stud Partitions: Screw attach stud wall anchors to studs. Provide floor anchor at each jamb, in addition to wall anchors. Use galvanized fasteners at exterior wall locations.
 - f. In-Place Stud Partitions: Adjust compression anchors to secure frames in proper position. Screw attach jamb bottoms to framing on both sides of each jamb.
 - g. In-Place Masonry or Concrete: Existing wall anchors, secured to substrate with post installation screw anchors. Countersink fastener heads, fill and finish flush and not visible after finish painting.
 - h. Installation Tolerances: During the setting and securing of frames check and correct as necessary for opening width, opening height, squareness, alignment, twist and plumbness. Installation tolerances shall be maintained within the following limits.
 - 1) Opening Width: Measured from rabbet to rabbet at top, middle and bottom of frame; plus 1/16 inch, minus 1/32 inch.
 - 2) Opening Height: Measured vertically between the frame head rabbet and top of floor or bottom of frame minus jamb extensions at each jamb and across the head; plus 1/16 inch, minus 1/32 inch.
 - 3) Squareness: Measured at rabbet on a line from jamb, perpendicular to frame head; not to exceed 1/16 inch.
 - 4) Alignment: Measured at jambs on a horizontal line parallel to the plane of the face; not to exceed 1/16 inch.

- 5) Twist: Measured at opposite face corners of jambs on parallel lines perpendicular to the plane of the door rabbet; not to exceed 1/16 inch.
- 6) Plumbness: Measured at the jambs on a perpendicular line from the head to the floor; not to exceed 1/16 inch.

C. Glazing Moldings and Stops

1. Coordinate installation with Division 08 Section - Glazing and with hollow metal manufacturer's instructions. Screw attach with stops with uniformly spaced countersunk flathead or oval head fasteners to hold stops in position tight to opening without gaps or displacement.

3.4 CLEANING

- A. Clean surfaces made dirty by field work.
- B. Metallic-Coated Steel Surfaces: At hollow metal work exposed to the exterior, repair galvanized surfaces with zinc-rich primer.
- C. Primer Touchup: Surfaces damaged from storage, handling and installation operations shall be sanded smooth and touch up with compatible rust inhibitive primer.

END OF SECTION

SECTION 081416 - FLUSH WOOD DOORS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Solid-core doors with wood-veneer faces.
Factory fitting flush wood doors to frames and factory machining for hardware.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of door indicated. Include details of core and edge construction[, louvers,] and trim for openings. Include factory-finishing specifications.

Shop Drawings: Indicate location, size, and hand of each door; elevation of each kind of door; construction details not covered in Product Data; location and extent of hardware blocking; and other pertinent data.

- 1. Indicate dimensions and locations of mortises and holes for hardware.
Indicate dimensions and locations of cutouts.
Indicate requirements for veneer matching.
Indicate doors to be factory finished and finish requirements.
Indicate fire-protection ratings for fire-rated doors.

- B. Samples for Initial Selection: For factory-finished doors.

Samples for Verification:

- 1. Factory finishes applied to actual door face materials, approximately 8 by 10 inches, for each material and finish. For each wood species and transparent finish, provide set of three samples showing typical range of color and grain to be expected in the finished work.
Corner sections of doors, approximately 8 by 10 inches, with door faces and edges representing actual materials to be used.
 - a. Provide samples for each species of veneer and solid lumber required. Finish veneer-faced door samples with same materials proposed for factory-finished doors.

1.4 QUALITY ASSURANCE

- A. Source Limitations: Obtain flush wood doors from single manufacturer.

Quality Standard: In addition to requirements specified, comply with AWI's "Architectural Woodwork Quality Standards Illustrated."

1. Provide AWI Quality Certification Labels or an AWI letter of licensing for Project indicating that doors comply with requirements of grades specified.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Comply with requirements of referenced standard and manufacturer's written instructions.

Package doors individually in plastic bags or cardboard cartons.

Mark each door on top and bottom rail with opening number used on Shop Drawings.

1.6 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install doors until spaces are enclosed and weathertight, wet work in spaces is complete and dry, and HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.

1.7 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace doors that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:
 - a. Warping (bow, cup, or twist) more than 1/4 inch in a 42-by-84-inch section. Telegraphing of core construction in face veneers exceeding 0.01 inch in a 3-inch span.

2. Warranty shall also include installation and finishing that may be required due to repair or replacement of defective doors.

Warranty Period for Solid-Core Interior Doors: Life of installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Algoma Hardwoods, Inc.
Ampco, Inc.
Eagle Plywood & Door Manufacturing, Inc.
Graham; an Assa Abloy Group company.
Ideal Architectural Doors & Plywood.

Marlite.
Mohawk Flush Doors, Inc.; a Masonite company.
Oshkosh Architectural Door Company.
VT Industries Inc.

2.2 DOOR CONSTRUCTION, GENERAL

- A. Low-Emitting Materials: Fabricate doors with adhesives and composite wood products that do not contain urea formaldehyde.

Structural-Composite-Lumber-Core Doors:

1. Structural Composite Lumber: WDMA I.S.10.
 - a. Screw Withdrawal, Face: 700 lbf.
Screw Withdrawal, Edge: 400 lbf.
- B. Fire-Protection-Rated Doors: Provide core specified or mineral core as needed to provide fire-protection rating indicated.
 1. Edge Construction: Provide edge construction with intumescent seals concealed by outer stile. Comply with specified requirements for exposed edges.
Pairs: Provide fire-retardant stiles that are listed and labeled for applications indicated without formed-steel edges and astragals. Provide stiles with concealed intumescent seals. Comply with specified requirements for exposed edges.

2.3 VENEERED-FACED DOORS FOR TRANSPARENT FINISH

- A. Interior Solid-Core Doors :
1. Grade: Custom (Grade A faces).
Species: Select white birch.
Cut: Rotary cut.
Match between Veneer Leaves: Pleasing match.
Assembly of Veneer Leaves on Door Faces: Center-balance match.
Pair and Set Match: Provide for doors hung in same opening or separated only by mullions.
Room Match: Match door faces within each separate room or area of building.
Corridor-door faces do not need to match where they are separated by 10 feet or more.
Room Match: Provide door faces of compatible color and grain within each separate room or area of building.
Exposed Vertical and Top Edges: Same species as faces or a compatible species.
Core: Structural composite lumber.
Construction: Five or seven plies. Stiles and rails are bonded to core, and then entire unit abrasive planed before veneering. Faces are bonded to core using a hot press.

2.4 LIGHT FRAMES

- A. Wood Beads for Light Openings in Wood Doors: Provide manufacturer's standard wood beads as follows unless otherwise indicated.

1. Wood Species: Same species as door faces.
Profile: Flush rectangular beads.

- B. Wood-Veneered Beads for Light Openings in Fire-Rated Doors: Manufacturer's standard wood-veneered noncombustible beads matching veneer species of door faces and approved for use in doors of fire-protection rating indicated. Include concealed metal glazing clips where required for opening size and fire-protection rating indicated.

2.5 FABRICATION

- A. Factory fit doors to suit frame-opening sizes indicated. Comply with clearance requirements of referenced quality standard for fitting unless otherwise indicated.
1. Comply with requirements in NFPA 80 for fire-rated doors.
- B. Factory machine doors for hardware that is not surface applied. Locate hardware to comply with DHI-WDHS-3. Comply with final hardware schedules, door frame Shop Drawings, DHI A115-W series standards, and hardware templates.
1. Coordinate with hardware mortises in metal frames to verify dimensions and alignment before factory machining.
- C. Openings: Cut and trim openings through doors in factory.
1. Light Openings: Trim openings with moldings of material and profile indicated. Glazing: Factory install glazing in doors indicated to be factory finished. Comply with applicable requirements in Division 08 Section "Glazing."

2.6 FACTORY FINISHING

- A. General: Comply with referenced quality standard for factory finishing. Complete fabrication, including fitting doors for openings and machining for hardware that is not surface applied, before finishing.
1. Finish faces, all four edges, edges of cutouts, and mortises. Stains and fillers may be omitted on top and bottom edges, edges of cutouts, and mortises.

- B. Finish doors at factory.

Finish doors at factory that are indicated to receive transparent finish. Field finish doors indicated to receive opaque finish.

Finish doors at factory where indicated in schedules or on Drawings as factory finished.

Transparent Finish:

1. Grade: Custom.
Finish: AWI conversion varnish or catalyzed polyurethane system.
Staining: As selected by Architect from manufacturer's full range.
Effect: Filled finish.
Sheen: Satin.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine doors and installed door frames before hanging doors.
 - 1. Verify that frames comply with indicated requirements for type, size, location, and swing characteristics and have been installed with level heads and plumb jambs. Reject doors with defects.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Hardware: For installation, see Division 08 Section "Door Hardware."

Installation Instructions: Install doors to comply with manufacturer's written instructions and the referenced quality standard, and as indicated.

- 1. Install fire-rated doors in corresponding fire-rated frames according to NFPA 80.
- B. Factory-Fitted Doors: Align in frames for uniform clearance at each edge.

Factory-Finished Doors: Restore finish before installation if fitting or machining is required at Project site.

3.3 ADJUSTING

- A. Operation: Re-hang or replace doors that do not swing or operate freely.

Finished Doors: Replace doors that are damaged or that do not comply with requirements. Doors may be repaired or refinished if work complies with requirements and shows no evidence of repair or refinishing.

END OF SECTION 081416

SECTION 087100 - DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes:

Mechanical door hardware.
Cylinders for door hardware.

- B. Related Sections:

Division 08 Section "Hollow Metal Doors and Frames".

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction and installation details, material descriptions, dimensions of individual components and profiles, and finishes.

Samples for Verification: For exposed door hardware of each type required, in each finish specified, prepared on Samples of size indicated below. Tag Samples with full description for coordination with the door hardware schedule. Submit Samples before, or concurrent with, submission of door hardware schedule.

Other Action Submittals:

1. Door Hardware Schedule: Prepared by or under the supervision of Installer, detailing fabrication and assembly of door hardware, as well as installation procedures and diagrams. Coordinate final door hardware schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
 - a. Submittal Sequence: Submit door hardware schedule concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate the fabrication of other work that is critical in Project construction schedule.

Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule." Double space entries, and number and date each page.

Format: Use same scheduling sequence and format and use same door numbers as in the Contract Documents.

Content: Include the following information:

- 1) Identification number, location, hand, fire rating, size, and material of each door and frame.
Locations of each door hardware set, cross-referenced to Drawings on floor plans and to door and frame schedule.
Complete designations, including name and manufacturer, type, style, function, size, quantity, function, and finish of each door hardware product.
Fastenings and other pertinent information.
Explanation of abbreviations, symbols, and codes contained in schedule.
Mounting locations for door hardware.
List of related door devices specified in other Sections for each door and frame.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer and Architectural Hardware Consultant.

Product Test Reports: For compliance with accessibility requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for door hardware on doors located in accessible routes.

Warranty: Special warranty specified in this Section.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For each type of door hardware to include in maintenance manuals. Include final hardware and keying schedule.

1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: Supplier of products and an employer of workers trained and approved by product manufacturers and an Architectural Hardware Consultant who is available during the course of the Work to consult with Contractor, Architect, and Owner about door hardware and keying.

Architectural Hardware Consultant Qualifications: A person who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project and who is currently certified by DHI as follows:

Source Limitations: Obtain each type of door hardware from a single manufacturer.

Fire-Rated Door Assemblies: Where fire-rated door assemblies are indicated, provide door hardware rated for use in assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure according to NFPA 252 or UL 10C, unless otherwise

indicated.

Smoke- and Draft-Control Door Assemblies: Where smoke- and draft-control door assemblies are required, provide door hardware that meet requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105.

Accessibility Requirements: For door hardware on doors in an accessible route, comply with the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines and ICC/ANSI A117.1.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up for door hardware delivered to Project site.

Tag each item or package separately with identification coordinated with the final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package.

1.9 COORDINATION

- A. Coordinate layout and installation of floor-recessed door hardware with floor construction. Cast anchoring inserts into concrete. Concrete, reinforcement, and formwork requirements are specified in Division 03.

Installation Templates: Distribute for doors, frames, and other work specified to be factory prepared. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

Security: Coordinate installation of door hardware, keying, and access control with Owner's security consultant.

Existing Openings: Where hardware components are scheduled for application to existing construction or where modifications to existing door hardware are required, field verify existing conditions and coordinate installation of door hardware to suit opening conditions and to provide proper door operation.

1.10 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.

- 1. Failures include, but are not limited to, the following:

- a. Structural failures including excessive deflection, cracking, or breakage.
Faulty operation of doors and door hardware.
Deterioration of metals, metal finishes, and other materials beyond normal weathering and use.

- 2. Warranty Period: Three years from date of Substantial Completion, unless otherwise indicated.

- a. Exit Devices: Two years from date of Substantial Completion.
Manual Closers: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

- A. Provide door hardware for each door as scheduled on Drawings to comply with requirements in this Section.
 - 1. Door Hardware Sets: Provide quantity, item, size, finish or color indicated, and products complying with BHMA designations referenced.
- B. Designations: Requirements for design, grade, function, finish, size, and other distinctive qualities of each type of door hardware are indicated in Part 3 "Door Hardware Schedule" Article. Products are identified by using door hardware designations, as follows:
 - 1. References to BHMA Designations: Provide products complying with these designations and requirements for description, quality, and function.

2.2 HINGES

- A. Hinges: BHMA A156.1. Heavy Duty. Provide template-produced hinges for hinges installed on hollow-metal doors and hollow-metal frames.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - Baldwin Hardware Corporation.
 - Cal-Royal Products, Inc.
 - PBB, Inc.
 - Stanley Commercial Hardware; Div. of The Stanley Works.

2.3 MECHANICAL LOCKS AND LATCHES

- A. Lock Throw: Comply with testing requirements for length of bolts required for labeled fire doors, and as follows:
 - 1. Bored Locks: Minimum 1/2-inch latchbolt throw.
Deadbolts: Minimum 1-inch bolt throw.
- B. Lock Trim:
Dummy Trim: Match lever lock trim and escutcheons.

2.4 EXIT DEVICES AND AUXILIARY ITEMS

- A. Exit Devices and Auxiliary Items: BHMA A156.3.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

ASSA ABLOY

Corbin Russwin Architectural Hardware; an ASSA ABLOY Group company.

Dor-O-Matic; an Ingersoll-Rand company.

Von Duprin; an Ingersoll-Rand company.

Yale Security Inc.; an ASSA ABLOY Group company.

- B. Outside : Pull with Keyed Lock

2.5 LOCK CYLINDERS

- A. Lock Cylinders: Tumbler type, constructed from brass or bronze, stainless steel, or nickel silver.

1. Manufacturer: Same manufacturer as for locking devices.

- B. Standard Lock Cylinders: BHMA A156.5; Grade 1; permanent cores that are interchangeable; face finished to match lockset.

High-Security Lock Cylinders: BHMA A156.30; Grade 1; Type M, mechanical; permanent cores that are removable; face finished to match lockset.

2.6 KEYING –Provided by Owner

2.7 OPERATING TRIM

- A. Operating Trim: BHMA A156.6; stainless steel, unless otherwise indicated.

2.8 SURFACE CLOSERS

- A. Surface Closers: BHMA A156.4; rack-and-pinion hydraulic type with adjustable sweep and latch speeds controlled by key-operated valves and forged-steel main arm. Comply with manufacturer's written recommendations for size of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Provide factory-sized closers, adjustable to meet field conditions and requirements for opening force.

2.9 DOOR GASKETING

- A. Door Gasketing: BHMA A156.22; air leakage not to exceed **0.50 cfm per foot** of crack length for gasketing other than for smoke control, as tested according to ASTM E 283; with resilient or flexible seal strips that are easily replaceable and readily available from stocks maintained by manufacturer.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- a. Hager Companies.
National Guard Products.
Pemko Manufacturing Co.; an ASSA ABLOY Group company.
Reese Enterprises, Inc.

2.10 THRESHOLDS

- A. Thresholds: BHMA A156.21; fabricated to full width of opening indicated.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Hager Companies.
National Guard Products.
Pemko Manufacturing Co.; an ASSA ABLOY Group company.
Reese Enterprises, Inc.

2.11 MECHANICAL STOPS AND HOLDERS

- 1. Wall- and Floor-Mounted Stops: BHMA A156.16; polished cast brass, bronze, or aluminum base metal.

2.12 METAL PROTECTIVE TRIM UNITS

- A. Metal Protective Trim Units: BHMA A156.6; fabricated from 0.050-inch- thick stainless steel; with manufacturer's standard machine or self-tapping screw fasteners.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - Baldwin Hardware Corporation.
 - Burns Manufacturing Incorporated.
 - Don-Jo Mfg., Inc.
 - IVES Hardware; an Ingersoll-Rand company.
 - Trimco.

2.13 FABRICATION

- A. Manufacturer's Nameplate: Do not provide products that have manufacturer's name or trade name displayed in a visible location except in conjunction with required fire-rated labels and as otherwise approved by Architect.
 - 1. Manufacturer's identification is permitted on rim of lock cylinders only.
- B. Base Metals: Produce door hardware units of base metal indicated, fabricated by forming method indicated, using manufacturer's standard metal alloy, composition, temper, and hardness. Furnish metals of a quality equal to or greater than that of specified door hardware units and BHMA A156.18.

Fasteners: Provide door hardware manufactured to comply with published templates prepared for machine, wood, and sheet metal screws. Provide screws that comply with commercially recognized industry standards for application intended, except aluminum fasteners are not permitted. Provide Phillips flat-head screws with finished heads to match surface of door hardware, unless otherwise indicated.

1. Concealed Fasteners: For door hardware units that are exposed when door is closed, except for units already specified with concealed fasteners. Do not use through bolts for installation where bolt head or nut on opposite face is exposed unless it is the only means of securely attaching the door hardware. Where through bolts are used on hollow door and frame construction, provide sleeves for each through bolt.
2. Spacers or Sex Bolts: For through bolting of hollow-metal doors.
Fasteners for Wood Doors: Comply with requirements in DHI WDHS.2, "Recommended Fasteners for Wood Doors."
Gasketing Fasteners: Provide noncorrosive fasteners for exterior applications and elsewhere as indicated.

2.14 FINISHES - Match existing hardware finishes in building

- A. Provide finishes complying with BHMA A156.18 as indicated in door hardware schedule.

Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance.

Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Steel Doors and Frames: For surface applied door hardware, drill and tap doors and frames according to ANSI/SDI A250.6.

Wood Doors: Comply with DHI WDHS.5 "Recommended Hardware Reinforcement Locations for Mineral Core Wood Flush Doors."

3.3 INSTALLATION

- A. Mounting Heights: Mount door hardware units at heights indicated on Drawings unless otherwise indicated or required to comply with governing regulations.
 - 1. Standard Steel Doors and Frames: ANSI/SDI A250.8.
Custom Steel Doors and Frames: HMMA 831.
- B. Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 09 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
 - 1. Set units level, plumb, and true to line and location. Adjust and reinforce attachment substrates as necessary for proper installation and operation. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
- C. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than the number recommended by manufacturer for application indicated or one hinge for every 30 inches of door height, whichever is more stringent, unless other equivalent means of support for door, such as spring hinges or pivots, are provided.

Lock Cylinders: Install construction cores to secure building and areas during construction period.

Thresholds: Set thresholds for exterior doors and other doors indicated in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."

Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they will impede traffic.

Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.

Door Bottoms: Apply to bottom of door, forming seal with threshold when door is closed.

3.4 FIELD QUALITY CONTROL

- A. Independent Architectural Hardware Consultant: Owner will engage a qualified independent Architectural Hardware Consultant to perform inspections and to prepare inspection reports.
 - 1. Independent Architectural Hardware Consultant will inspect door hardware and state in each report whether installed work complies with or deviates from requirements, including whether door hardware is properly installed and adjusted.

3.5 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be

adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

1. Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.

B. Occupancy Adjustment: Approximately three months after date of Substantial Completion, Installer's Architectural Hardware Consultant shall examine and readjust each item of door hardware, including adjusting operating forces, as necessary to ensure function of doors, door hardware, and electrified door hardware.

3.6 CLEANING AND PROTECTION

A. Clean adjacent surfaces soiled by door hardware installation.

Clean operating items as necessary to restore proper function and finish.

Provide final protection and maintain conditions that ensure that door hardware is without damage or deterioration at time of Substantial Completion.

END OF SECTION 087100

SECTION 088000 - GLAZING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes glazing for the following products and applications, including those specified in other Sections where glazing requirements are specified by reference to this Section:

- 1. Windows.

1.3 DEFINITIONS

- A. Glass Manufacturers: Firms that produce primary glass, fabricated glass, or both, as defined in referenced glazing publications.

Glass Thicknesses: Indicated by thickness designations in millimeters according to ASTM C 1036.

Interspace: Space between lites of an insulating-glass unit.

1.4 PERFORMANCE REQUIREMENTS

- A. General: Installed glazing systems shall withstand normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage attributable to the following: defective manufacture, fabrication, or installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; or other defects in construction.

Delegated Design: Design glass, including comprehensive engineering analysis according to ICC's 2003 International Building Code by a qualified professional engineer, using the following design criteria:

- 1. Design Wind Pressures: As indicated on Drawings.
Design Wind Pressures: Determine design wind pressures applicable to Project according to ASCE/SEI 7, based on heights above grade indicated on Drawings.
 - a. Wind Design Data: Basic Wind Speed: Importance Factor: As indicated on Drawings.
Exposure Category: C.
- 2. Vertical Glazing: For glass surfaces sloped 15 degrees or less from vertical, design glass to resist design wind pressure based on glass type factors for short-

duration load.

Maximum Lateral Deflection: For glass supported on all four edges, limit center-of-glass deflection at design wind pressure to not more than 1/50 times the short-side length or 1 inch, whichever is less.

Differential Shading: Design glass to resist thermal stresses induced by differential shading within individual glass lites.

- B. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes acting on glass framing members and glazing components.
 - 1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

1.5 ACTION SUBMITTALS

- A. Glazing Schedule: List glass types and thicknesses for each size opening and location. Use same designations indicated on Drawings.

Delegated-Design Submittal: For glass indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For installers.

Product Certificates: For glass and glazing products, from manufacturer.

Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for insulating glass .

- 1. For glazing sealants, provide test reports based on testing current sealant formulations within previous 36-month period.

- B. Warranties: Sample of special warranties.

1.7 QUALITY ASSURANCE

- A. Manufacturer Qualifications for Insulating-Glass Units with Sputter-Coated, Low-E Coatings: A qualified insulating-glass manufacturer who is approved and certified by coated-glass manufacturer.

Installer Qualifications: A qualified installer who employs glass installers for this Project who are certified under the National Glass Association's Certified Glass Installer Program.

Glass Testing Agency Qualifications: A qualified independent testing agency accredited according to the NFRC CAP 1 Certification Agency Program.

Sealant Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated.

Source Limitations for Glass: Obtain from single source from single manufacturer for

each glass type.

Source Limitations for Glazing Accessories: Obtain from single source from single manufacturer for each product and installation method.

Glazing Publications: Comply with published recommendations of glass product manufacturers and organizations below, unless more stringent requirements are indicated. Refer to these publications for glazing terms not otherwise defined in this Section or in referenced standards.

1. GANA Publications: GANA's "Laminated Glazing Reference Manual" and GANA's "Glazing Manual."
AAMA Publications: AAMA GDSG-1, "Glass Design for Sloped Glazing," and AAMA TIR-A7, "Sloped Glazing Guidelines."
IGMA Publication for Insulating Glass: SIGMA TM-3000, "North American Glazing Guidelines for Sealed Insulating Glass Units for Commercial and Residential Use."

- B. Safety Glazing Labeling: Where safety glazing labeling is indicated, permanently mark glazing with certification label of the SGCC. Label shall indicate manufacturer's name, type of glass, thickness, and safety glazing standard with which glass complies.

Insulating-Glass Certification Program: Permanently marked either on spacers or on at least one component lite of units with appropriate certification label of IGCC.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Protect glazing materials according to manufacturer's written instructions. Prevent damage to glass and glazing materials from condensation, temperature changes, direct exposure to sun, or other causes.

Comply with insulating-glass manufacturer's written recommendations for venting and sealing units to avoid hermetic seal ruptures due to altitude change.

1.9 PROJECT CONDITIONS

- A. Environmental Limitations: Do not proceed with glazing when ambient and substrate temperature conditions are outside limits permitted by glazing material manufacturers and when glazing channel substrates are wet from rain, frost, condensation, or other causes.

1. Do not install glazing sealants when ambient and substrate temperature conditions are outside limits permitted by sealant manufacturer or below 40 deg F.

1.10 WARRANTY

- A. Manufacturer's Special Warranty on Insulating Glass: Manufacturer's standard form in which insulating-glass manufacturer agrees to replace insulating-glass units that deteriorate within specified warranty period. Deterioration of insulating glass is defined as failure of hermetic seal under normal use that is not attributed to glass breakage or to maintaining and cleaning insulating glass contrary to manufacturer's written

instructions. Evidence of failure is the obstruction of vision by dust, moisture, or film on interior surfaces of glass.

1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 GLASS PRODUCTS, GENERAL

- A. Thickness: Where glass thickness is indicated, it is a minimum. Provide glass lites in thicknesses as needed to comply with requirements indicated.
 1. Minimum Glass Thickness for Exterior Lites: Not less than 6.0 mm.
Thickness of Tinted Glass: Provide same thickness for each tint color indicated throughout Project.
- B. Strength: Where float glass is indicated, provide annealed float glass, Kind HS heat-treated float glass, or Kind FT heat-treated float glass as needed to comply with "Performance Requirements" Article. Where heat-strengthened glass is indicated, provide Kind HS heat-treated float glass or Kind FT heat-treated float glass as needed to comply with "Performance Requirements" Article. Where fully tempered glass is indicated, provide Kind FT heat-treated float glass.
- C. Thermal and Optical Performance Properties: Provide glass with performance properties specified, as indicated in manufacturer's published test data, based on procedures indicated below:
U-Factors: Center-of-glazing values, according to NFRC 100 and based on LBL's WINDOW 5.2 computer program, expressed as Btu/sq. ft. x h x deg F.
Solar Heat-Gain Coefficient and Visible Transmittance: Center-of-glazing values, according to NFRC 200 and based on LBL's WINDOW 5.2 computer program.
Visible Reflectance: Center-of-glazing values, according to NFRC 300.

2.2 GLASS PRODUCTS

- A. Float Glass: ASTM C 1036, Type I, Quality-Q3, Class I (clear) unless otherwise indicated.

Ultraclear Float Glass: ASTM C 1036, Type I, Quality-Q3, Class I, complying with other requirements specified and with visible light transmission not less than 91 percent and solar heat gain coefficient not less than 0.87.
 1. Products: Subject to compliance with requirements, [provide the following] [provide one of the following] [available products that may be incorporated into the Work include, but are not limited to, the following]:
 - a. AFG Industries, Inc.; Krystal Klear.
Guardian Industries Corp.; Ultrawhite.
Pilkington North America; Optiwhite.
PPG Industries, Inc.; Starphire.

2.3 GLAZING GASKETS

- A. Dense Compression Gaskets: Molded or extruded gaskets of profile and hardness required to maintain watertight seal, made from one of the following:
1. Neoprene complying with ASTM C 864.
EPDM complying with ASTM C 864.
Silicone complying with ASTM C 1115.
Thermoplastic polyolefin rubber complying with ASTM C 1115.

2.4 GLAZING SEALANTS

- A. General:
1. **Compatibility:** Provide glazing sealants that are compatible with one another and with other materials they will contact, including glass products, seals of insulating-glass units, and glazing channel substrates, under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
Suitability: Comply with sealant and glass manufacturers' written instructions for selecting glazing sealants suitable for applications indicated and for conditions existing at time of installation.
Sealants used inside the weatherproofing system, shall have a VOC content of not more than 250 g/L when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
Colors of Exposed Glazing Sealants: As indicated by manufacturer's designations.

2.5 MISCELLANEOUS GLAZING MATERIALS

- A. General: Provide products of material, size, and shape complying with referenced glazing standard, requirements of manufacturers of glass and other glazing materials for application indicated, and with a proven record of compatibility with surfaces contacted in installation.

Cleaners, Primers, and Sealers: Types recommended by sealant or gasket manufacturer.

Setting Blocks: Elastomeric material with a Shore, Type A durometer hardness of 85, plus or minus 5.

Spacers: Elastomeric blocks or continuous extrusions of hardness required by glass manufacturer to maintain glass lites in place for installation indicated.

Edge Blocks: Elastomeric material of hardness needed to limit glass lateral movement (side walking).

Cylindrical Glazing Sealant Backing: ASTM C 1330, Type O (open-cell material), of size and density to control glazing sealant depth and otherwise produce optimum glazing sealant performance.

Perimeter Insulation for Fire-Resistive Glazing: Product that is approved by testing agency that listed and labeled fire-resistant glazing product with which it is used for application and fire-protection rating indicated.

2.6 FABRICATION OF GLAZING UNITS

- A. Fabricate glazing units in sizes required to fit openings indicated for Project, with edge and face clearances, edge and surface conditions, and bite complying with written instructions of product manufacturer and referenced glazing publications, to comply with system performance requirements.

Clean-cut or flat-grind vertical edges of butt-glazed monolithic lites to produce square edges with slight chamfers at junctions of edges and faces.

Grind smooth and polish exposed glass edges and corners.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine framing, glazing channels, and stops, with Installer present, for compliance with the following:
 - 1. Manufacturing and installation tolerances, including those for size, squareness, and offsets at corners.
Presence and functioning of weep systems.
Minimum required face and edge clearances.
Effective sealing between joints of glass-framing members.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean glazing channels and other framing members receiving glass immediately before glazing. Remove coatings not firmly bonded to substrates.

Examine glazing units to locate exterior and interior surfaces. Label or mark units as needed so that exterior and interior surfaces are readily identifiable. Do not use materials that will leave visible marks in the completed work.

3.3 GLAZING, GENERAL

- A. Comply with combined written instructions of manufacturers of glass, sealants, gaskets, and other glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications.

Adjust glazing channel dimensions as required by Project conditions during installation to provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances.

Protect glass edges from damage during handling and installation. Remove damaged glass from Project site and legally dispose of off Project site. Damaged glass is glass with edge damage or other imperfections that, when installed, could weaken glass and impair performance and appearance.

Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction testing.

Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications, unless otherwise required by glass manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.

Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.

Provide spacers for glass lites where length plus width is larger than 50 inches.

1. Locate spacers directly opposite each other on both inside and outside faces of glass. Install correct size and spacing to preserve required face clearances, unless gaskets and glazing tapes are used that have demonstrated ability to maintain required face clearances and to comply with system performance requirements.

Provide 1/8-inch minimum bite of spacers on glass and use thickness equal to sealant width. With glazing tape, use thickness slightly less than final compressed thickness of tape.

- B. Provide edge blocking where indicated or needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer and according to requirements in referenced glazing publications.

Set glass lites in each series with uniform pattern, draw, bow, and similar characteristics.

Set glass lites with proper orientation so that coatings face exterior or interior as specified.

Where wedge-shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage so gasket cannot walk out when installation is subjected to movement.

Square cut wedge-shaped gaskets at corners and install gaskets in a manner recommended by gasket manufacturer to prevent corners from pulling away; seal corner joints and butt joints with sealant recommended by gasket manufacturer.

3.4 GASKET GLAZING (DRY)

- A. Cut compression gaskets to lengths recommended by gasket manufacturer to fit openings exactly, with allowance for stretch during installation.

Insert soft compression gasket between glass and frame or fixed stop so it is securely in place with joints miter cut and bonded together at corners.

Installation with Drive-in Wedge Gaskets: Center glass lites in openings on setting blocks and press firmly against soft compression gasket by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended by gasket manufacturer.

Installation with Pressure-Glazing Stops: Center glass lites in openings on setting blocks and press firmly against soft compression gasket. Install dense compression gaskets and pressure-glazing stops, applying pressure uniformly to compression gaskets.

Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended by gasket manufacturer.

Install gaskets so they protrude past face of glazing stops.

3.5 CLEANING AND PROTECTION

- A. Protect exterior glass from damage immediately after installation by attaching crossed streamers to framing held away from glass. Do not apply markers to glass surface. Remove nonpermanent labels and clean surfaces.

Protect glass from contact with contaminating substances resulting from construction operations. If, despite such protection, contaminating substances do come into contact with glass, remove substances immediately as recommended in writing by glass manufacturer.

Examine glass surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for buildup of dirt, scum, alkaline deposits, or stains; remove as recommended in writing by glass manufacturer.

Remove and replace glass that is broken, chipped, cracked, or abraded or that is damaged from natural causes, accidents, and vandalism, during construction period.

Wash glass on both exposed surfaces in each area of Project not more than four days before date scheduled for inspections that establish date of Substantial Completion. Wash glass as recommended in writing by glass manufacturer.

END OF SECTION 088000

SECTION 092216 - NON-STRUCTURAL METAL FRAMING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes non-load-bearing steel framing members for the following applications:
 - 1. Interior framing systems (e.g., supports for partition walls, framed soffits, furring, etc.).
- B. Related Sections include the following:
 - 1. None

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.

1.4 QUALITY ASSURANCE

- A. Fire-Test-Response Characteristics: For fire-resistance-rated assemblies that incorporate non-load-bearing steel framing, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.

PART 2 - PRODUCTS

2.1 NON-LOAD-BEARING STEEL FRAMING, GENERAL

Framing Members, General: Comply with ASTM C 754 for conditions indicated.

- 1. Steel Sheet Components: Comply with ASTM C 645 requirements for metal, unless otherwise indicated.
Protective Coating: ASTM A 653/A 653M, G60, hot-dip galvanized, unless otherwise indicated.

2.2 STEEL FRAMING FOR FRAMED ASSEMBLIES

- A. Steel Studs and Runners: ASTM C 645.
1. Minimum Base-Metal Thickness: 0.0312 inch.
Depth: As indicated on Drawings.
- B. Slip-Type Head Joints: Where indicated, provide one of the following:
1. Single Long-Leg Runner System: ASTM C 645 top runner with 2-inch deep flanges in thickness not less than indicated for studs, installed with studs friction fit into top runner and with continuous bridging located within 12 inches of the top of studs to provide lateral bracing.
Double-Runner System: ASTM C 645 top runners, inside runner with 2-inch deep flanges in thickness not less than indicated for studs and fastened to studs, and outer runner sized to friction fit inside runner.
Deflection Track: Steel sheet top runner manufactured to prevent cracking of finishes applied to interior partition framing resulting from deflection of structure above; in thickness not less than indicated for studs and in width to accommodate depth of studs.
Products: Subject to compliance with requirements, provide one of the following:
 - 1) Steel Network Inc. (The); VertiClip SLD Series.
Superior Metal Trim; Superior Flex Track System (SFT).
- C. Flat Strap and Backing Plate: Steel sheet for blocking and bracing in length and width indicated.
1. Minimum Base-Metal Thickness: 0.0312 inch.
- D. Cold-Rolled Channel Bridging: 0.0538-inch bare-steel thickness, with minimum 1/2-inch wide flanges.
1. Depth: As indicated on Drawings.
Clip Angle: Not less than 1-1/2 by 1-1/2 inches, 0.068-inch thick, galvanized steel.

2.3 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards.
1. Fasteners for Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames, cast-in anchors, and structural framing, for compliance with requirements and other conditions affecting performance.
 - 1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Suspended Assemblies: Coordinate installation of suspension systems with installation of overhead structure to ensure that inserts and other provisions for anchorages to building structure have been installed to receive hangers at spacing required to support the Work and that hangers will develop their full strength.
 - 1. Furnish concrete inserts and other devices indicated to other trades for installation in advance of time needed for coordination and construction.
- B. Coordination with Sprayed Fire-Resistive Materials:
 - 1. Before sprayed fire-resistive materials are applied, attach offset anchor plates or ceiling runners (tracks) to surfaces indicated to receive sprayed fire-resistive materials. Where offset anchor plates are required, provide continuous plates fastened to building structure not more than 24 inches o.c.
After sprayed fire-resistive materials are applied, remove them only to extent necessary for installation of non-load-bearing steel framing. Do not reduce thickness of fire-resistive materials below that required for fire-resistance ratings indicated. Protect adjacent fire-resistive materials from damage.

3.3 INSTALLATION, GENERAL

- A. Installation Standard: ASTM C 754, except comply with framing sizes and spacing indicated.
- B. Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.

Install bracing at terminations in assemblies.

Do not bridge building control and expansion joints with non-load-bearing steel

framing members. Frame both sides of joints independently.

Installation Tolerances: Install suspension systems that are level to within 1/8 inch in 12 feet measured lengthwise on each member that will receive finishes and transversely between parallel members that will receive finishes.

3.4 INSTALLING FRAMED ASSEMBLIES

- A. Where studs are installed directly against exterior masonry walls or dissimilar metals at exterior walls, install isolation strip between studs and exterior wall.

Install studs so flanges within framing system point in same direction.

1. Space studs as follows:

- a. Single-Layer Application: 16 inches o.c., unless otherwise indicated.

- Multilayer Application: 16 inches o.c., unless otherwise indicated.

- Tile backing panels: 16 inches o.c., unless otherwise indicated.

- B. Install tracks (runners) at floors and overhead supports. Extend framing full height to structural supports or substrates above suspended ceilings, except where partitions are indicated to terminate at suspended ceilings. Continue framing around ducts penetrating partitions above ceiling.

1. Slip-Type Head Joints: Where framing extends to overhead structural supports, install to produce joints at tops of framing systems that prevent axial loading of finished assemblies.

Door Openings: Screw vertical studs at jambs to jamb anchor clips on door frames; install runner track section (for cripple studs) at head and secure to jamb studs.

- a. Install two studs at each jamb, unless otherwise indicated.

- Install cripple studs at head adjacent to each jamb stud, with a minimum 1/2-inch clearance from jamb stud to allow for installation of control joint in finished assembly.

- Extend jamb studs through suspended ceilings and attach to underside of overhead structure.

2. Other Framed Openings: Frame openings other than door openings the same as required for door openings, unless otherwise indicated. Install framing below sills of openings to match framing required above door heads.

Fire-Resistance-Rated Partitions: Install framing to comply with fire-resistance-rated assembly indicated and support closures and to make partitions continuous from floor to underside of solid structure.

- a. Firestop Track: Where indicated, install to maintain continuity of fire-resistance-rated assembly indicated.

- C. Direct Furring:
Attach to concrete or masonry with stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced 24 inches o.c.
- D. Installation Tolerance: Install each framing member so fastening surfaces vary not more than 1/8 inch from the plane formed by faces of adjacent framing.

END OF SECTION 092216

SECTION 092900 - GYPSUM BOARD

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Interior gypsum board.
Tile backing panels.
- B. Related Sections include the following:
Division 09 Section "Non Structural Metal Framing" for metal stud framing.
Division 09 painting Sections for primers applied to gypsum board surfaces.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.

1.4 QUALITY ASSURANCE

- A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.

1.5 STORAGE AND HANDLING

- A. Store materials inside under cover and keep them dry and protected against damage from weather, condensation, direct sunlight, construction traffic, and other causes. Stack panels flat to prevent sagging.

1.6 PROJECT CONDITIONS

- A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.

Do not install interior products until installation areas are enclosed and conditioned.

Do not install panels that are wet, those that are moisture damaged, and those that are mold damaged.

1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 PANELS, GENERAL

Size: Provide in maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

2.2 INTERIOR GYPSUM BOARD

- A. General: Complying with ASTM C 36/C 36M or ASTM C 1396/C 1396M, as applicable to type of gypsum board indicated and whichever is more stringent.
Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. American Gypsum Co.
BPB America Inc.
G-P Gypsum.
Lafarge North America Inc.
National Gypsum Company.
USG Corporation.
Temple-Inland.
- B. Gypsum Board, Type X: ASTM C 1396/C 1396M.
 1. Basis-of-Design Product: Georgia-Pacific Gypsum; "ToughRock Fireguard Gypsum Board."
 2. Thickness: 1/2 inch, 5/8 inch
 3. Long Edges: Tapered
- C. Abuse-Resistant Type: Manufactured to produce greater resistance to surface indentation, through-penetration (impact resistance), and abrasion than standard, regular-type and Type X gypsum board.
 1. Core: 5/8 inch.
Long Edges: Tapered.

2.3 TRIM ACCESSORIES

A. Interior Trim: ASTM C 1047.

1. Material: Galvanized or aluminum-coated steel sheet or rolled zinc.
Shapes:

a. Cornerbead.

Bullnose bead.

LC-Bead: J-shaped; exposed long flange receives joint compound.

L-Bead: L-shaped; exposed long flange receives joint compound.

U-Bead: J-shaped; exposed short flange does not receive joint compound.

Expansion (control) joint.

2.4 JOINT TREATMENT MATERIALS

A. General: Comply with ASTM C 475/C 475M.

Joint Tape:

1. Interior Gypsum Wallboard: Paper.

Glass-Mat Gypsum Sheathing Board: 10-by-10 glass mesh.

Tile Backing Panels: As recommended by panel manufacturer.

B. Joint Compound for Interior Gypsum Wallboard: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.

1. Prefilling: At open joints, rounded or beveled panel edges, and damaged surface areas, use setting-type taping compound.

Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use drying-type, all-purpose compound.

a. Use setting-type compound for installing paper-faced metal trim accessories.

2. Fill Coat: For second coat, use drying-type, all-purpose compound.

Finish Coat: For third coat, use drying-type, all-purpose compound.

2.5 AUXILIARY MATERIALS

A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.

B. Steel Drill Screws: ASTM C 1002, unless otherwise indicated.

1. Use screws complying with ASTM C 954 for fastening panels to steel members from 0.033 to 0.112 inch thick.

For fastening cementitious backer units, use screws of type and size

recommended by panel manufacturer.

- C. Sound Attenuation Blankets: ASTM C 665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.
 - 1. Fire-Resistance-Rated Assemblies: Comply with mineral-fiber requirements of assembly.
- D. Thermal Insulation: As specified in Division 07 Section "Thermal Insulation."

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames and framing, for compliance with requirements and other conditions affecting performance.

Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.

Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 APPLYING AND FINISHING PANELS, GENERAL

- A. Comply with ASTM C 840.

Install ceiling panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.

Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place.

Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.

Form control and expansion joints with space between edges of adjoining gypsum panels.

Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.

- 1. Unless concealed application is indicated or required for sound, fire, air,

or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. in area.

Fit gypsum panels around ducts, pipes, and conduits.

Where partitions intersect structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by structural members; allow 1/4- to 3/8-inch wide joints to install sealant.

- B. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments, except floors. Provide 1/4- to 1/2-inch wide spaces at these locations, and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

Attachment to Steel Framing: Attach panels so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.

3.3 APPLYING INTERIOR GYPSUM BOARD

A. Single-Layer Application:

- 1. On ceilings, apply gypsum panels before wall/partition board application to greatest extent possible and at right angles to framing, unless otherwise indicated.

On partitions/walls, apply gypsum panels vertically (parallel to framing), unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.

- a. Stagger abutting end joints not less than one framing member in alternate courses of panels.

At stairwells and other high walls, install panels horizontally, unless otherwise indicated or required by fire-resistance-rated assembly.

- 2. On Z-furring members, apply gypsum panels vertically (parallel to framing) with no end joints. Locate edge joints over furring members. Fastening Methods: Apply gypsum panels to supports with steel drill screws.

Install with 1/4-inch gap where panels abut other construction or penetrations.

3.4 INSTALLING TRIM ACCESSORIES

- A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.

Control Joints: Install control joints according to ASTM C 840 and in specific locations approved by Architect for visual effect.

Interior Trim: Install in the following locations:

1. Cornerbead: Use at outside corners, unless otherwise indicated.
- LC-Bead: Use at exposed panel edges.
- U-Bead: Use at exposed panel edges.

3.5 FINISHING GYPSUM BOARD

- A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.

Prefill open joints, rounded or beveled edges, and damaged surface areas.

Apply joint tape over gypsum board joints, except those with trim having flanges not intended for tape.

Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C 840:

1. Level 1: Ceiling plenum areas, concealed areas, and where indicated.
- Level 4: At panel surfaces that will be exposed to view, unless otherwise indicated.
 - a. Primer and its application to surfaces are specified in other Division 09 Sections.

3.6 PROTECTION

- A. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.

Remove and replace panels that are wet, moisture damaged, and mold damaged.

1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 092900

SECTION 099123 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes surface preparation and the application of paint systems on the following interior substrates:
 - 1. Concrete.
 - Steel.
 - Galvanized metal.
 - Gypsum board.
- B. Related Sections include the following:
 - Division 09 Section "Exterior Painting" for surface preparation and the application of paint systems on exterior substrates.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.
 - 1. Maintain containers in clean condition, free of foreign materials and residue.Remove rags and waste from storage areas daily.

1.4 PROJECT CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F.

Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

1.5 EXTRA MATERIALS

- A. Furnish extra materials described below that are from same production run (batch mix) as materials applied and that are packaged for storage and

identified with labels describing contents.

1. Quantity: Furnish an additional 5 percent, but not less than 1 gal. of each material and color applied.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Benjamin Moore & Co.
Color Wheel Paints & Coatings.
ICI Paints.
PPG Architectural Finishes, Inc.
Sherwin-Williams Company (The).
Rose Talbot

2.2 PAINT, GENERAL

A. Material Compatibility:

1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.

For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

B. Chemical Components of Field-Applied Interior Paints and Coatings: Provide topcoat paints and anti-corrosive and anti-rust paints applied to ferrous metals that comply with the following chemical restrictions; these requirements do not apply to paints and coatings that are applied in a fabrication or finishing shop:

1. Aromatic Compounds: Paints and coatings shall not contain more than 1.0 percent by weight of total aromatic compounds (hydrocarbon compounds containing one or more benzene rings).

Restricted Components: Paints and coatings shall not contain any of the following:

- a. Acrolein.
Acrylonitrile.
Antimony.
Benzene.
Butyl benzyl phthalate.
Cadmium.

Di (2-ethylhexyl) phthalate.
Di-n-butyl phthalate.
Di-n-octyl phthalate.
1,2-dichlorobenzene.
Diethyl phthalate.
Dimethyl phthalate.
Ethylbenzene.
Formaldehyde.
Hexavalent chromium.
Isophorone.
Lead.
Mercury.
Methyl ethyl ketone.
Methyl isobutyl ketone.
Methylene chloride.
Naphthalene.
Toluene (methylbenzene).
1,1,1-trichloroethane.
Vinyl chloride.

- C. Colors: As selected by Architect from manufacturer's full range.

2.3 PRIMERS/SEALERS

- A. Interior Latex Primer/Sealer: MPI #50.
- B. Interior Alkyd Primer/Sealer: MPI #45.

2.4 METAL PRIMERS

- A. Alkyd Anticorrosive Metal Primer: MPI #79.
- B. Waterborne Galvanized-Metal Primer: MPI #134.
- C. Quick-Drying Primer for Aluminum: MPI #95.

2.5 LATEX PAINTS

- A. Interior Latex (Eggshell): MPI #52 (Gloss Level 3).
- B. Interior Latex (Semigloss): MPI #54 (Gloss Level 5).
- C. High-Performance Architectural Latex (Semigloss): MPI #141 (Gloss Level 5).

2.6 ALKYD PAINTS

- A. Interior Alkyd (Semigloss): MPI #47 (Gloss Level 5).

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of work.

Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:

- 1. Concrete: Gypsum Board: 12 percent

- B. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

Begin coating application only after unsatisfactory conditions have been corrected and surfaces are dry.

- 1. Beginning coating application constitutes Contractor's acceptance of substrates and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates indicated.

Remove plates, machined surfaces, and similar items already in place that are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.

- 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.

Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.

- B. Clean substrates of substances that could impair bond of paints, including dirt, oil, grease, and incompatible paints and encapsulants.

- 1. Remove incompatible primers and reprime substrate with compatible primers as required to produce paint systems indicated.

- C. Concrete Substrates: Remove release agents, curing compounds, efflorescence, and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces to be painted exceeds that permitted in manufacturer's written instructions.

Concrete Masonry Substrates: Remove efflorescence and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces to be painted exceeds that permitted in manufacturer's written instructions.

Steel Substrates: Remove rust and loose mill scale. Clean using methods recommended in writing by paint manufacturer.

Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal fabricated from coil stock by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.

D. Gypsum Board Substrates: Do not begin paint application until finishing compound is dry and sanded smooth.

3.3 APPLICATION

A. Apply paints according to manufacturer's written instructions.

1. Use applicators and techniques suited for paint and substrate indicated. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.

B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.

If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.

Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 FIELD QUALITY CONTROL

A. Testing of Paint Materials: Owner reserves the right to invoke the following procedure at any time and as often as Owner deems necessary during the period when paints are being applied:

1. Owner will engage the services of a qualified testing agency to sample paint materials being used. Samples of material delivered to Project site will be taken, identified, sealed, and certified in presence of Contractor. Testing agency will perform tests for compliance with product requirements. Owner may direct Contractor to stop applying paints if test results show materials being used do not comply with product requirements.

Contractor shall remove noncomplying-paint materials from Project site, pay for testing, and repaint surfaces painted with rejected materials. Contractor will be required to remove rejected materials from previously painted surfaces if, on repainting with complying materials, the two paints are incompatible.

3.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.

After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.6 INTERIOR PAINTING SCHEDULE

- A. Steel Substrates:

- 1. Alkyd System: MPI INT 5.1E.
 - a. Prime Coat: Alkyd anticorrosive metal primer.
 - Intermediate Coat: Interior alkyd matching topcoat.
 - Topcoat: Interior alkyd (semigloss).

- B. Gypsum Board Substrates:

- 1. Latex System: MPI INT 9.2A.
 - a. Prime Coat: Interior latex primer/sealer.
 - Intermediate Coat: Interior latex matching topcoat.
 - Topcoat: Interior latex (eggshell).

END OF SECTION 099123